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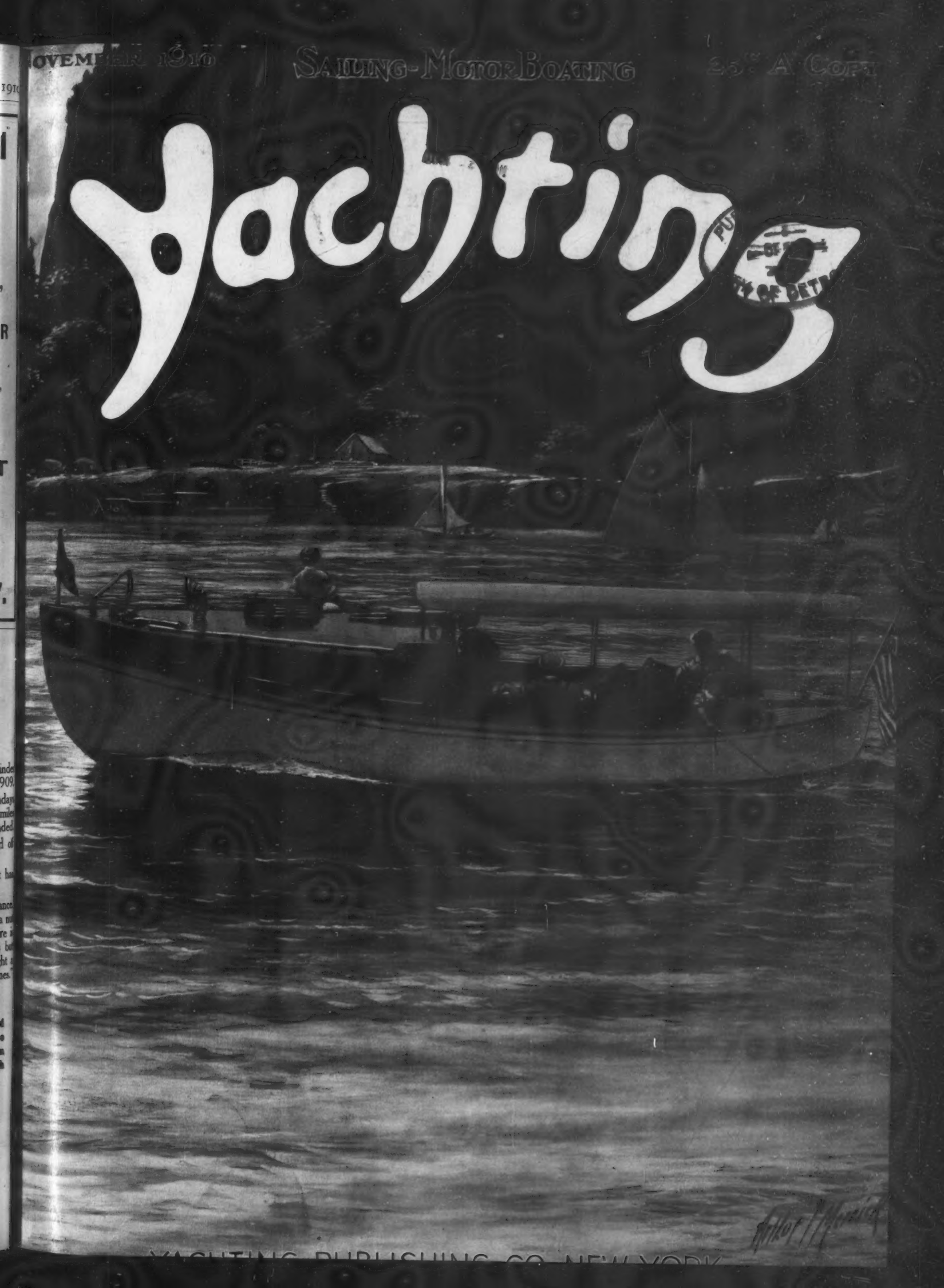

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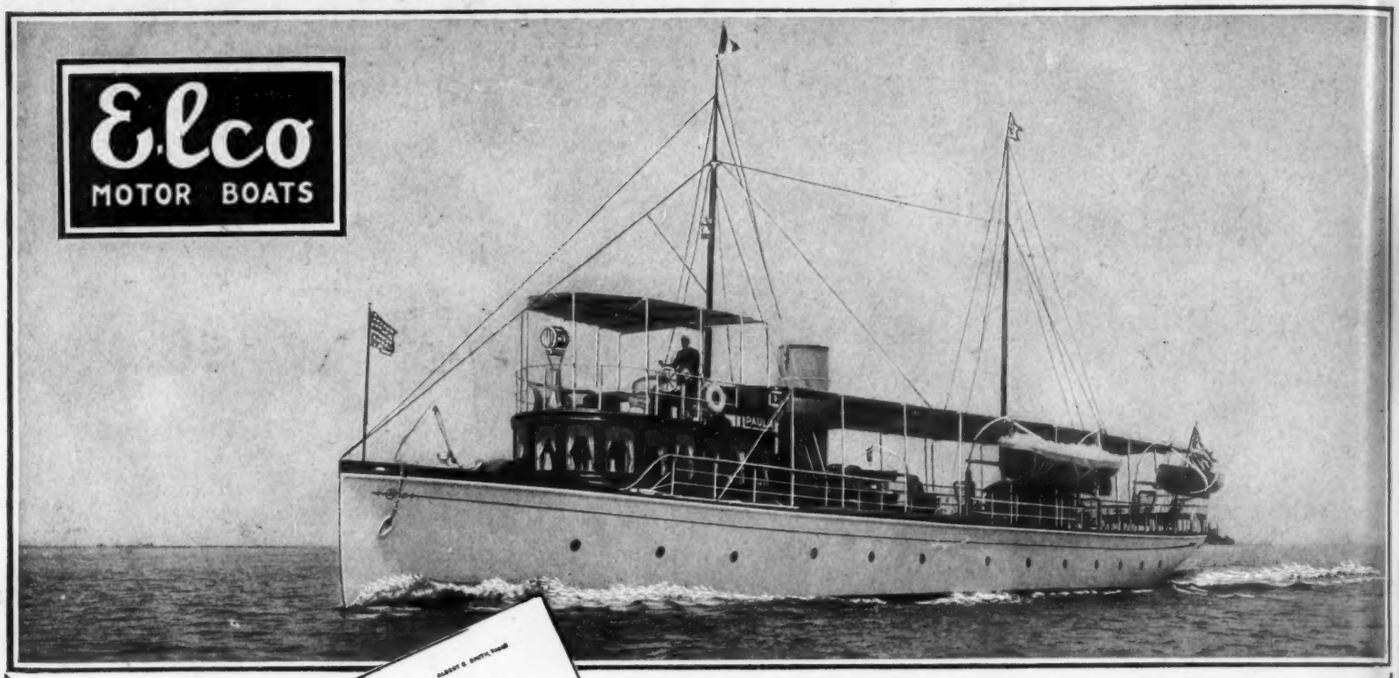

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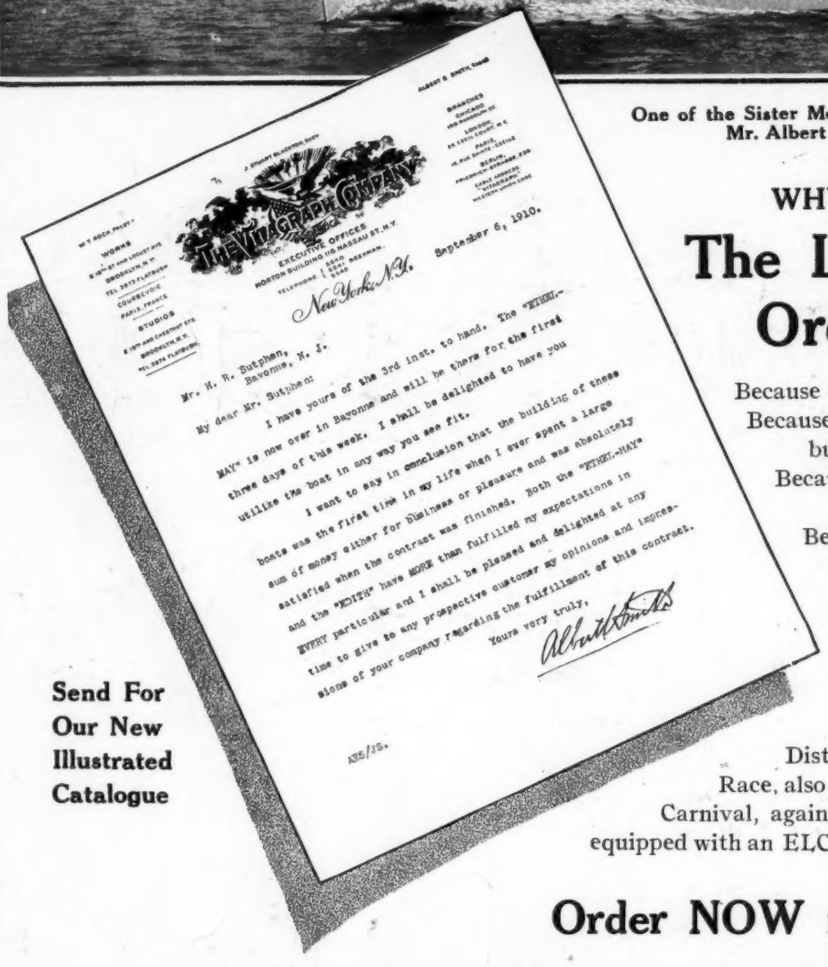

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EXECUTIVE OFFICES
NEW YORK, N.Y.

September 6, 1910.

Mr. H. R. Sutphen,
Bayonne, N. J.

My dear Mr. Sutphen:

I have yours of the 3rd inst. to hand. The "ETHEL-MAY" is now over in Bayonne and will be there for the first three days of this week. I shall be delighted to have you utilize the boat in any way you see fit.

I want to say in conclusion that the building of these boats was the first time in my life when I ever spent a large sum of money either for Business or pleasure and was absolutely satisfied when the contract was finished. Both the "ETHEL-MAY" and the "EDITH" have MORE than fulfilled my expectations in EVERY particular and I shall be pleased and delighted at any time to give to any prospective customer my opinions and impressions of your company regarding the fulfillment of this contract.

Yours very truly,

Albert E. Smith

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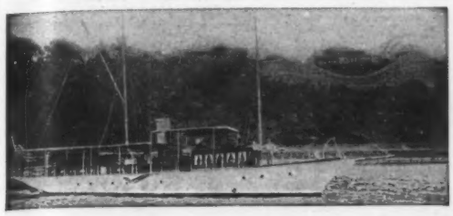
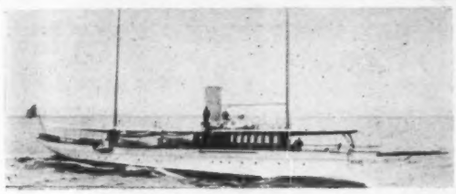
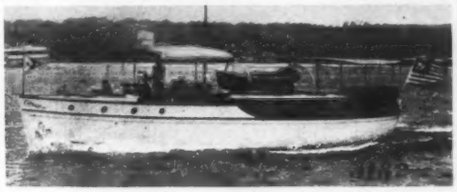


NO. 2808.—For sale or charter, at interesting prices. Modern, nearly new, twin screw power yacht. 90 x 14.6 x 3.2 ft. draught. Interior finish, selected mahogany. Three double staterooms, bath room, three toilets, dining and main saloons, electric lights. Located New York. Gielow & Orr, 52 Broadway, New York.

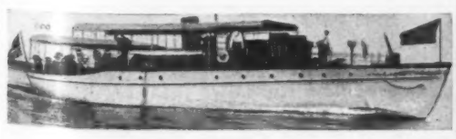


NO. 365.—For sale or charter at low prices. Speedy 165-ft. steel cruising steam yacht. Large accommodations. Very complete inventory. Plans, prices, etc., Gielow & Orr, 52 Broadway, New York.

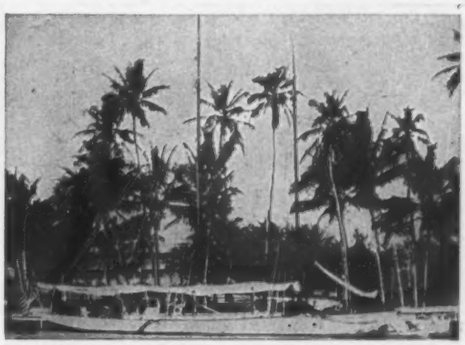


NO. 3132—FOR SALE.—Raised deck cruiser, built 1910. 60 x 11 x 4.3 ft. draught. Double and single stateroom, bath room, main cabin, etc. Honduras and African mahogany finish inside. All conveniences. Located New York. Price reasonable. Gielow & Orr, 52 Broadway, New York.

NO. 1365.—For sale at low figure. 62 x 12 x 4.6 ft Two 30 H. P. Craig engines, made like new 1910. Mahogany interior. Sleep three in owner's party, two crew. Staunch, able craft; always well kept up. Located New York. Gielow & Orr, 52 Broadway New York.



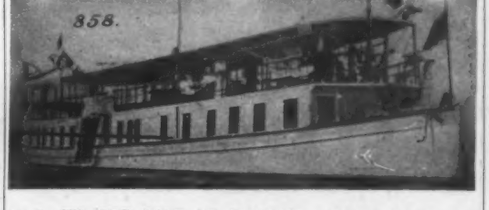
NO. 2820—FOR SALE.—Able and roomy, twin screw raised deck cruiser. Built 1909. 75 x 15 x 4 ft. draught. Two double staterooms, bath room, large main cabin with extension transoms, large galley; engine room and forecastle with officer's stateroom. Standard engines, electric lights. Solid mahogany interior. Gielow & Orr, 52 Broadway, New York.



NO. 806.—Built especially for Southern cruising. Steel, auxiliary, centerboard schooner, 84 x 65 x 19.4 x 4.5 ft. draught. Lead ballast. Trunk cabin with flush deck aft. One double, two single staterooms; large main cabin with four berths, bath room, three toilets, forecastle, engine room, launch, cutter and dinghy. 40 H. P. engine. Fine seaboat, handles well. Located New York. Gielow & Orr, 52 Broadway, New York.

NO. 2412—FOR SALE OR CHARTER.—Comfortable and up-to-date twin screw cruising houseboat, 68 x 23 x 3 ft. draught. Five staterooms, bath room, dining and smoking rooms. Charter price low. Gielow & Orr, 52 Broadway, New York.

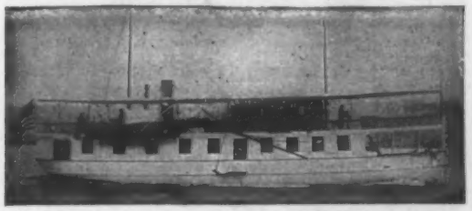
NO. 1816—SALE OR CHARTER.—Located in Florida. Twin screw, steel hull houseboat. One of the largest and roomiest afloat. 125 x 22 x 4 ft. draught. Six double staterooms, three bath rooms, two parlors, dining room, with large observatory on upper deck. All modern conveniences. Prices, photos and plans from Gielow & Orr, 52 Broadway, New York.



NO. 858—FOR SALE OR CHARTER.—Designed for use in Florida waters. Twin screw power houseboat, 125 x 18 x 3.6 ft. draught. Two 75 H. P. Standard engines. Five double staterooms, two bath rooms, large main cabin and upper deck. Electric lights. Extensive inventory. Sell for low figure or charter including crew's wages. Located New York. For plan, inventory and prices apply to Gielow & Orr, 52 Broadway, New York.

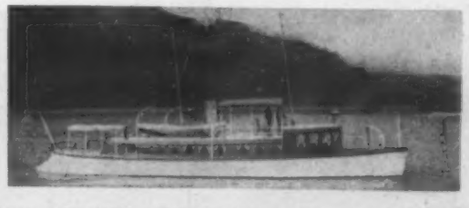
NO. 75.—For sale or charter at very moderate prices. 200-ft. over all modern ocean-going, American built, steel steam yacht. Has made several trips abroad. Thoroughly high class proposition. Located New York. Prices, plans, additiona particulars, Gielow & Orr, 52 Broadway, New York.

NO. 2958—FOR SALE.—Excellent bargain. Twin screw express steam yacht, 120 ft. over all. Dining saloon in deck house forward. Aft is owner's double stateroom, bath room and main cabin with two transom berths. Located New York. Price, plans, etc., from Gielow & Orr, 52 Broadway, New York.



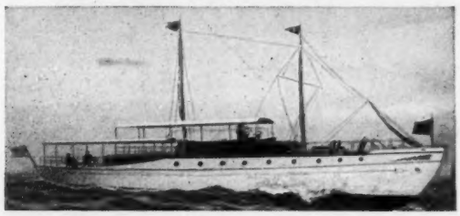
NO. 1804.—For charter or sale at bargain price. Twin screw gasoline houseboat, 85 x 23.6 x 4.6 ft. draught. Designed by Gielow; built 1906. Two 70 H. P. engines; speed, 10½ to 11½ knots. Three double staterooms, dining room, social hall, three bath rooms, three toilets; acetylene lights. Gave the best possible satisfaction during three months charter last winter. Located New York. Gielow & Orr, 52 Broadway, New York.

NO. 3156—FOR SALE.—Raised deck cruiser built 1910. 42 x 10 x 2.2 ft. draught. Standard engine, 18 H. P. Speed, 10 miles. Interior finish, mahogany. One double stateroom, berths in main cabin, toilet, galley, etc. A finely modeled craft. Located near New York. Offer desired. Gielow & Orr, 52 Broadway New York.



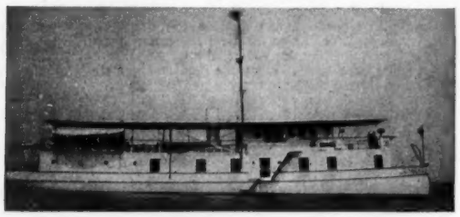
NO. 2402—FOR SALE.—Desirable motor yacht of type and moderate draught just right for Southern waters. 65 x 12.4 x 3.6 ft. draught. Standard engine, 25 H. P., new August, 1910. Electric lights, launch, dinghy. Double stateroom, forward and amidships cabins, sleep six. Interior, finest mahogany; toilet, engine room, galley. Flush deck aft and large bridge deck. Located New York. Price reasonable. Gielow & Orr, 52 Broadway New York.

TAMS, LEMOINE & CRANE, 52 Pine St., offer the following Yachts available for Charter and for Sale for cruising in Florida and Southern waters:

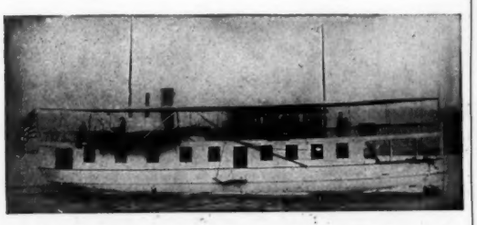


NO. 7674—FOR SALE, OWNER HAVING LARGER YACHT.—75-ft. twin screw raised deck cruiser; two 30 H. P., 4-cylinder engines. Two double staterooms, bath room and main cabin. Launch electric lights, etc.

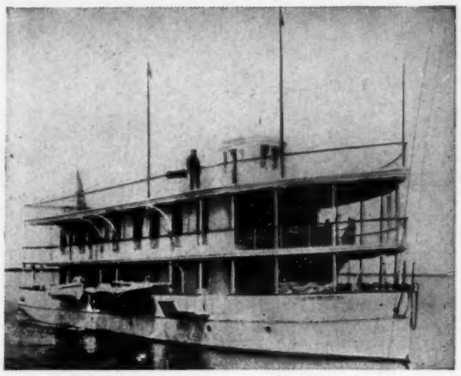
NO. 7132—FOR SALE OR CHARTER.—Unusual opportunity. 50 x 10 x 2.6 ft. raised deck cruiser; built by Lawley, 1907. Accommodations for six comfortably. 24 H. P. Lamb engine. Now in commission.



NO. 1820—FOR CHARTER AND SALE.—Motor houseboat, 103 x 94 x 20.4 x 2.6 ft., built 1903. Yacht suitable for Northern as well as Southern waters. Has two large double staterooms, two single rooms, two bath rooms, saloon, two sitting rooms on deck. In best possible condition. Twin screw, has 2 seventy H. P. motors. Can be had for a reasonable figure. Now in commission.

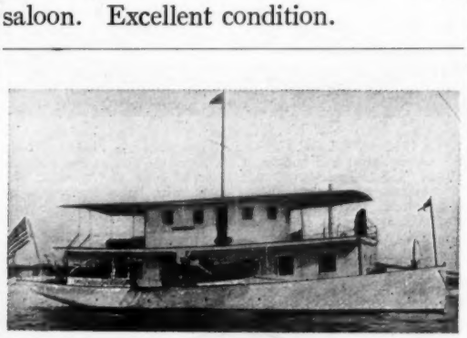


NO. 1837—FOR SALE AND CHARTER.—This attractive power houseboat 87 x 76 x 23 x 4 ft. built 1906. Three large staterooms, three bath rooms. Saloon below sitting room on deck. Two 75 H. P. motors. Complete outfit.

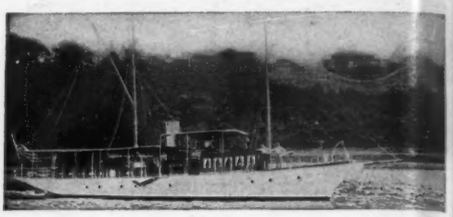


NO. 1817.—Owner anxious to sell or charter houseboat now in Florida, 91 x 23.6 x 3 ft.; twin screw motors 30 H. P. each; has four staterooms, bath, sitting room and dining room for owner.

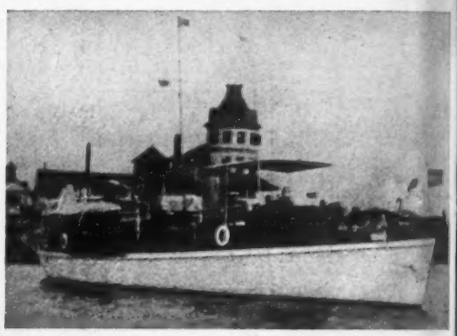
NO. 7175.—Modern motor yacht 68 x 13 x 3.6 ft. Built 1907. Twin screw standard motors. One double and one single stateroom, bathroom, large saloon. Excellent condition.



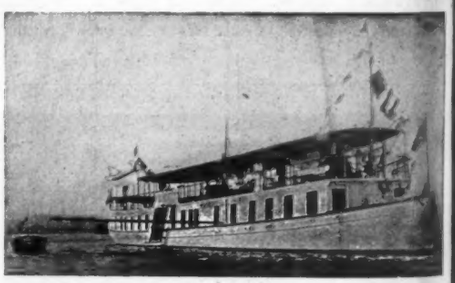
NO. 1856.—Modern houseboat, 68 x 23 x 4 ft. Two 40 H. P. motors, speed 8 miles. Acetylene gas, three staterooms, each with two berths, two staterooms on upper deck, dining saloon, smoking room, bathroom.



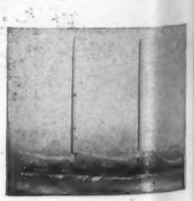
NO. 7729—Practically new power boat for sale, 90 ft. over all. Twin screw. Two large staterooms, saloon below, dining saloon on deck. Large bridge deck and after deck. Just completed a long cruise. Now in commission.



NO. 7356.—Desirable cruising power yacht 80 x 78 x 13 x 4 ft. draught. Two double staterooms, large saloon, with two berths, bathroom, all conveniences; six cylinder 20th Century motor, new 1910; speed 12 miles. Completely fitted.



NO. 1808—FOR SALE.—Power houseboat. Perfect condition. 123 x 115 x 17.8 x 3.6 ft. Built 1901. Five staterooms, two baths, large saloon. Twin screw, two 75 H. P. Standard motors. Electric light. Speed 9 knots. Unusual opportunity.



NO. 7349—FOR SALE OR CHARTER—Roomy gasolene cruiser; 75 x 19.6 x 3 ft. Speed, 7 knots; two 20 H. P. 20th Century motors. Acommodations include four staterooms, 19-ft. saloon, bath, etc. Now in commission.

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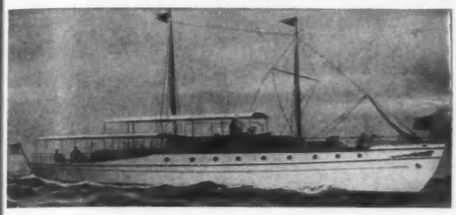
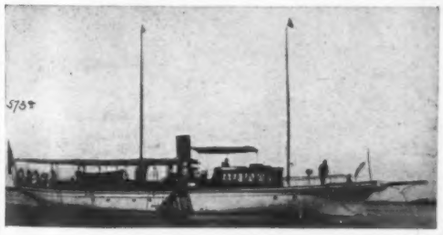
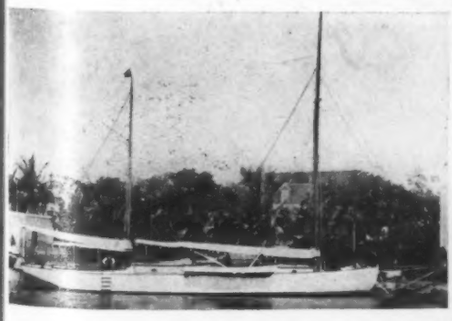
NO. 764.—Auxiliary ketch, 88 x 77 x 22 x 3.6 ft. Three staterooms, large saloon, etc. Two 25 H. P. Standards. All conveniences. Now in Florida waters.



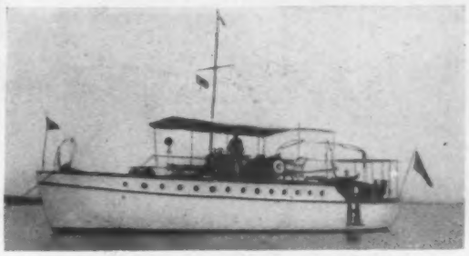
NO. 504—FOR SALE AND CHARTER.—75 x 17 x 3 ft. raised deck cruiser; two 40 H. P. 20th Century motors. Large saloon, two staterooms, bath, etc.



NO. 573—FOR SALE OR CHARTER.—90 ft. twin screw power yacht, launched 1909. Handsomely finished and furnished. Three double staterooms, bath, etc.



NO. 377.—Auxiliary ketch, 80 x 64 x 30 x 3.3 ft. Four staterooms, bath, two toilets. 28 H. P. motor. Now in Florida waters.



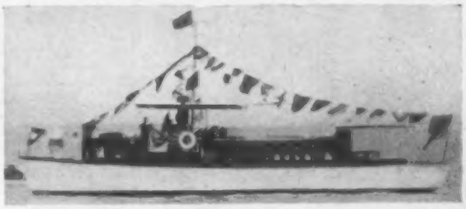
NO. 521—FOR SALE OR CHARTER.—57 x 13 ft. raised deck cruiser; 50–60 H. P. engine. Unusual accommodations. Very complete.

NO. 367—FOR SALE OR CHARTER.—Desirable twin screw gasoline houseboat, 85 x 23.6 x 4 ft. Excellent accommodations. Two 70 H. P. 20th Century motors.

NO. 345.—Twin screw power houseboat, 106 x 20.6 x 3 ft. Speed, 9 miles; two 70 H. P. motors. Very comfortable craft.

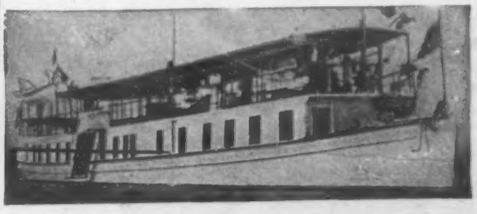
NO. 464—FOR SALE OR CHARTER.—81 ft. power yacht; Lawley build. Speed, 13 to 15 miles; 100 H. P. Standard. Excellent opportunity.

NO. 448.—Gasoline houseboat, 64 x 17.4 x 3.6 ft.; 25–35 H. P. Standard engine. Best construction. Exceptionally seaworthy.



NO. 997.—Gasoline cruiser, 55 x 11 x 3 ft. Built 1908. Handsomely finished. 40 H. P. 6-cycle motor. Located New York.

NO. 401—FOR SALE AND CHARTER.—65-ft. twin screw raised deck cruiser; two 20 H. P. motors. Stateroom, saloon, bath, etc. Unusual opportunity.



NO. 30.—Power houseboat, 123 x 17.8 x 3 ft. Two 75 H. P. Standards. Five staterooms, two bath rooms, etc.

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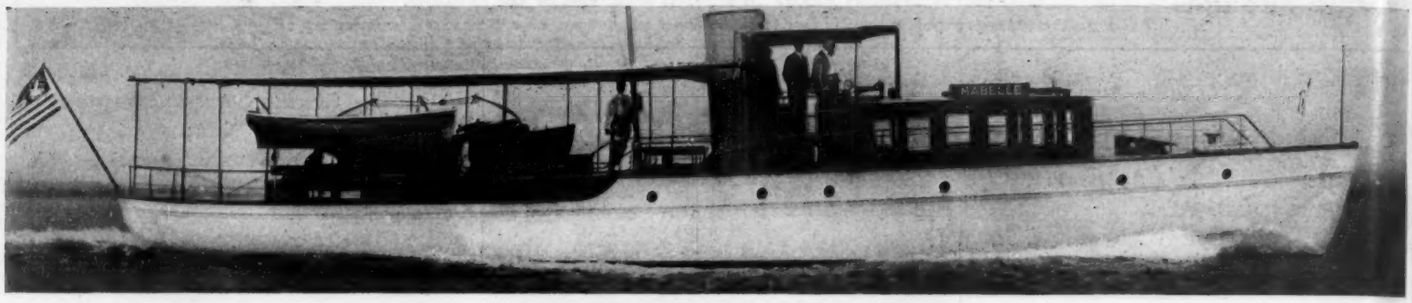
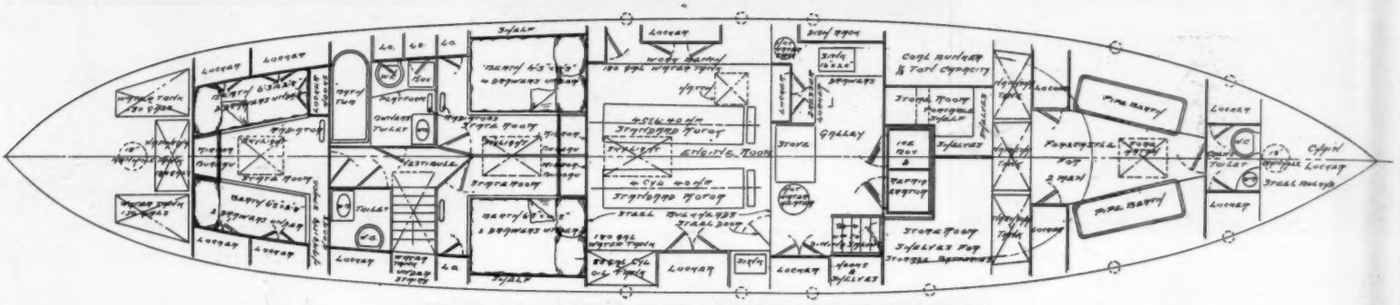
76' x 15' x 3'6"





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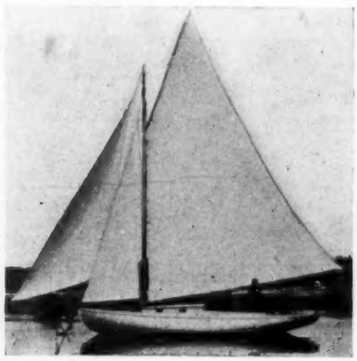
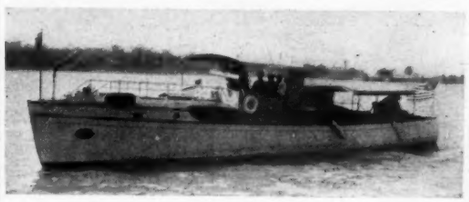


FOR SALE—A Sloop Yacht in fine condition. 32 ft. long, 11 ft. beam, 3 ft. draft. Only used three seasons. Big bargain if sold at once. Ernest A. Bailey, Essex, Conn.



NO. 1005—FOR SALE—New 60 ft. high speed power boat. Best possible construction. Finish throughout of selected mahogany. Electric lights. Completely found. Full particulars from Cox & Stevens, 15 William Street, New York.

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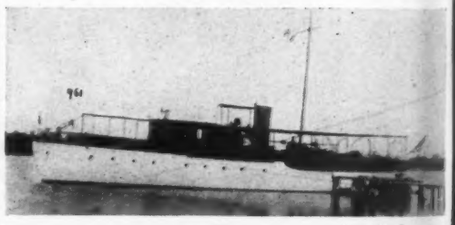

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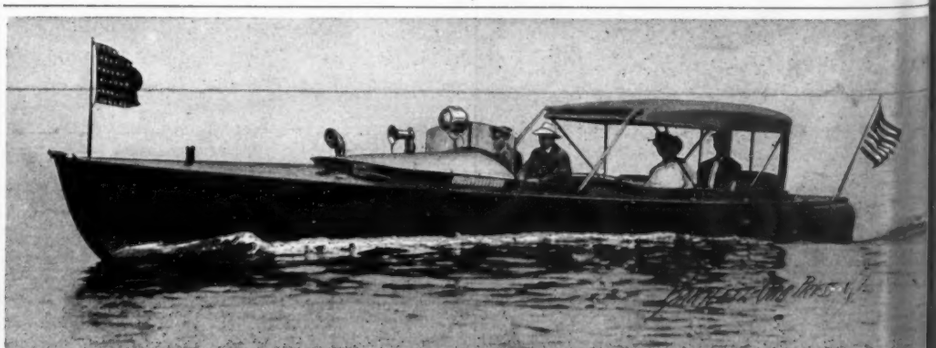

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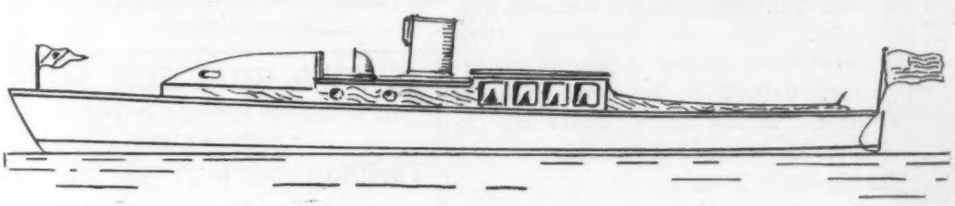
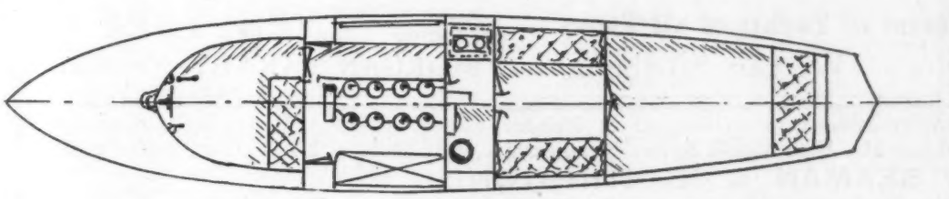


NO. 1001.—A fast day cruiser as shown herewith is offered for sale at a very attractive price. This boat is 40 ft. over all, 9 ft. beam, 2 ft. 10 ins. draught. Equipped with a 150 H. P. 8-cylinder marine motor, attaining a speed of over 20 miles an hour. In addition to this speed factor, this boat is designed to allow comfortable ladies' cabin, large toilet, roomy engine room and ample cockpit space. Its construction is of the best and it would be possible to make minor changes if the purchaser should so desire. For further information address American Marine Brokerage Company, 100 Boylston Street, Boston, Mass. Tel. Ox. 2812.



NO. 269—FOR SALE—Trunk cabin gasoline cruiser, 58 ft. 6 ins. over all, 53-ft. waterline, 11 ft. 3 ins. beam, 4 ft. draught. Launched 1907. Frames, selected oak; planking, hard pine Copper fastened throughout. 45 H. P. Murray & Tregurtha engine. Accommodations below deck consists of a ter cabin, with two Pullman berths, two wide transoms, two staterooms, engine room with pipe berth, and forward cabin with upholstered seats. Also two berths under after deck. Deck house, cabin and staterooms finished throughout in mahogany. Inventory complete for cruising including electric lights. A fast-cruising boat with excellent accommodations and suitable for Southern cruising. Will consider smaller boat in trade, cash adjustment. For plans, particulars, etc., apply American Marine Brokerage Company, 100 Boylston Street, Boston, Mass. Tel. Ox. 2812.

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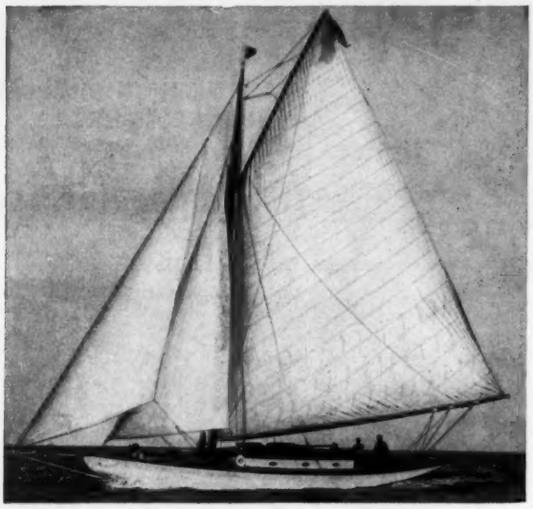

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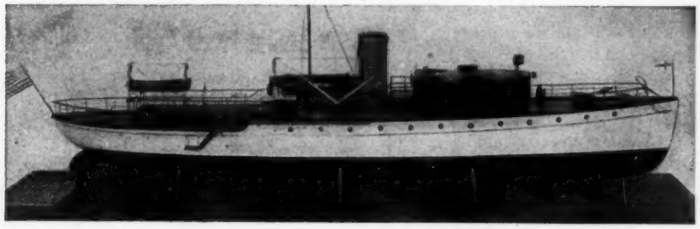

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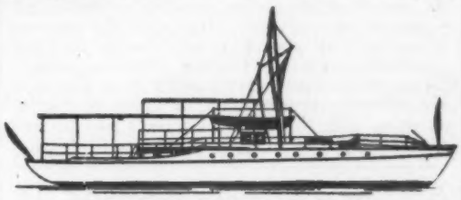

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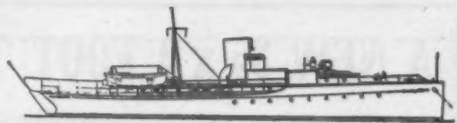

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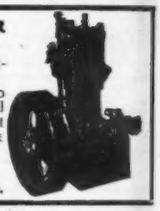

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(Continued from page 345.)

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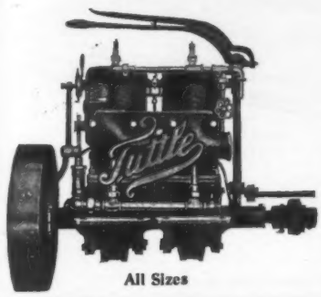

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(Published Every Thursday)

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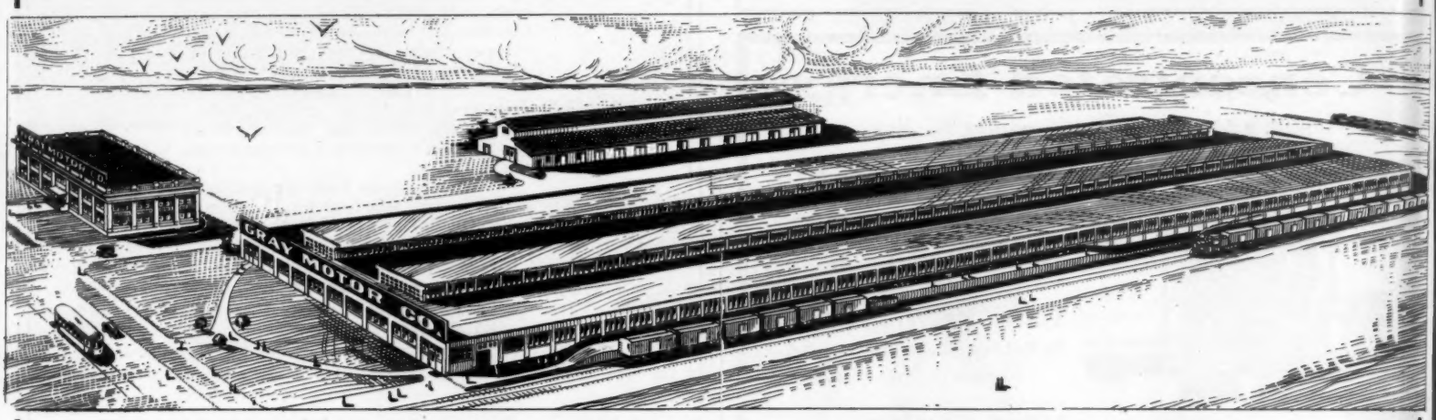
The Gray Motor Company having become a constituent plant of the United States Motor Company with a capital of $30,000,000 it is the intention to make this the largest marine and stationary gas engine building concern in the world.

With this big corporation behind the Gray Motor Company the user can feel sure of the latest developments in engineering practice, the highest grade of machine work and have an assurance of permanency and substantial backing.



Rough drawing of our new plant—one-fifth of a mile long. Actual photos of same in our next advertisement

We needed room to grow, besides room to do business in. Our new plant is built for the future as well as the present with acres of vacant property to grow into. The office building is 60 x 80 feet.

The manufacturing main plant is 150 x 1000 feet. The first 500 feet will be used exclusively for manufacturing Gray two-cycle marine motors. The remaining 500 feet will be used for manufacturing stationary motors.

This plant is fire-proof, concrete and steel construction with a railroad siding the entire length of the plant—one-fifth of a mile.

The testing room is 40 x 300 feet. In spite of the big capacity of our present plant we were 500 to 800 motors behind every day last spring—an entirely unexpected situation on our part and a very unsatisfactory one to our customers. This will not happen again for now we have room to build five times as many motors, building them in the dull season and warehousing them for the busy season.

The new plant is in Oakland Avenue, just inside the city limits, on a 22-acre tract purchased by the United States Motor Company for the location of their Detroit group of manufacturing plants. On this tract will be located the Gray Motor Company, the Brush Runabout Company, manufacturers of automobiles; the Alden-Sampson Company, manufacturers of motor trucks and the Briscoe Manufacturing Company, manufacturers of automobile parts.

Your opportunity to buy a 1911 Gray Motor at a special price

It is eight miles from our present factory to the new plant and it will require **fifty freight** cars to move us. We have to haul our present outfit three blocks; load it on freight cars, switch it around the city eight miles and shove it onto the siding alongside of our new plant and unload it.

To save as much of this moving as possible we have decided to offer 1,000 or 12 car loads of the 1911 motors we now have in stock at a special price for the month of November, provided we can ship them from our old plant and not be to the expense of moving them.

This is a splendid opportunity to buy your 1911 Gray Motor for next spring; to be sure you are going to get it; to get it at a low price and to buy from a concern whose guarantee is absolutely good.

In order to be sure to have motors in stock for immediate delivery when the demand is on for them in the spring, we began manufacturing our 1911 line September 1st and by January 1st of next year we will have 3,000 motors all ready for delivery and our new factory producing motors at 1,000 to 1,200 per month.

6 H P.—power, workmanship and material absolutely guaranteed by a responsible concern. Ready to install in your boat COMPLETE,

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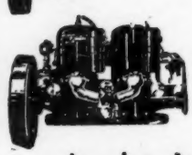

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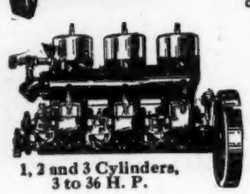
depending upon outfit.



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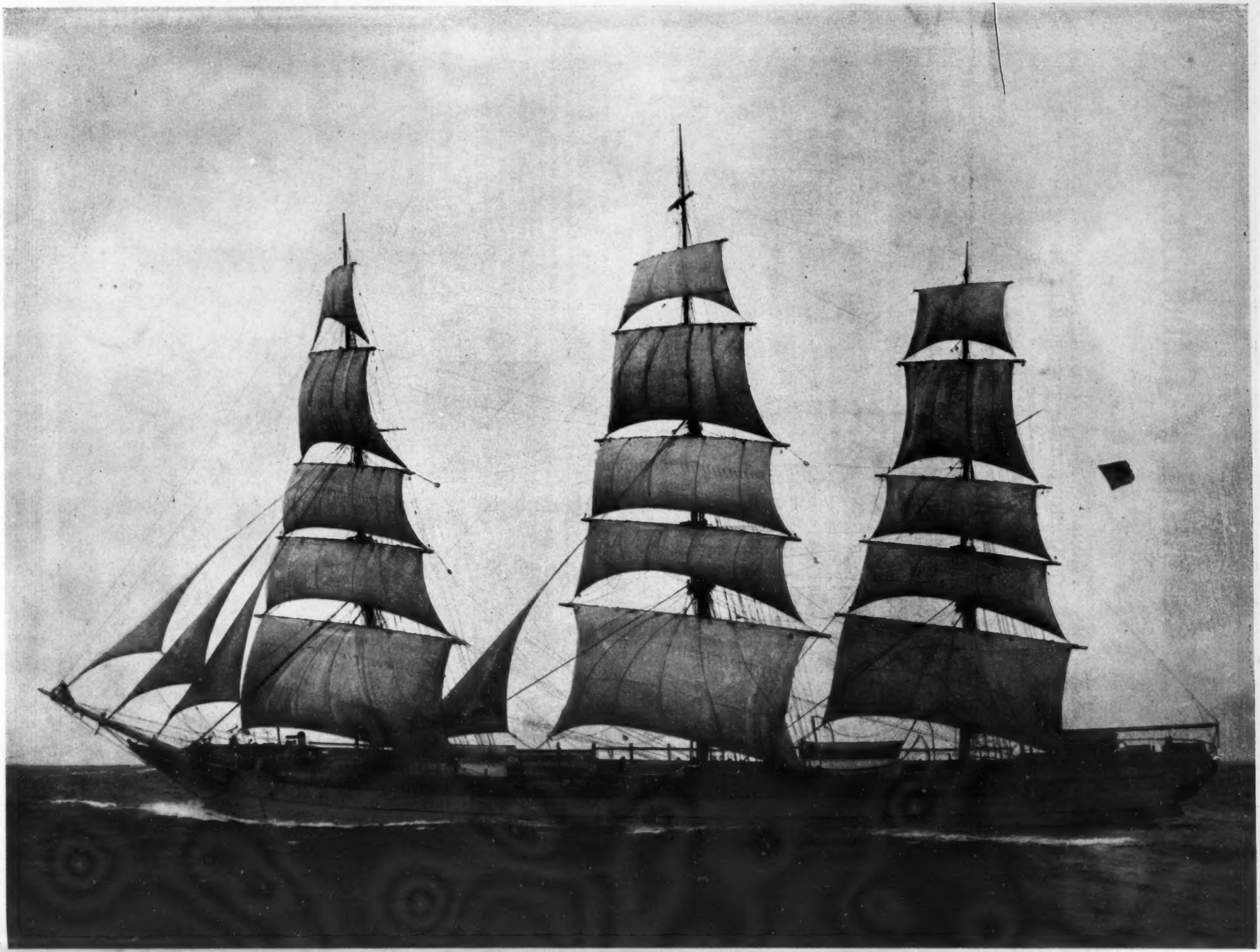


Photograph by N. L. Stebbins.

FULL AND BY.—SHIP TIMANDRA LEAVING BOSTON FOR THE RIVER PLATE.

YACHTING

VOLUME VIII. NUMBER 5 November, 1910 25 Cents a Copy $2.00 a Year

The National Carnival on the Hudson River

NAMELESS DID WELL UNTIL FLOATING DRIFTWOOD PUT HER OUT OF COMMISSION.

QUADRANT II.

THE National Association of Boat and Engine Manufacturers must certainly have great influence with the Clerk of the Weather, for the equinoctial storms were side-tracked and three very pleasant days handed out to them at a time of the year when such could hardly be expected.

Unfortunately, however, the Association failed to "fix" Neptune's Street Cleaning Department, and, as a result, the aforesaid department evidently made common cause with the Bureau of Encumbrances of the sea god's domain, with the result that the most unholy bunch of junk that ever floated down the great North River, since its discovery by the late lamented H. Hudson, Esq., made itself very much in evidence during those gorgeous September days, which saw nearly forty boats struggling for victory.

Skippers, who entered the events with high hopes, were glad to run their boats ashore with considerable moisture in the cellars and souvenirs, ranging from *passée* mattresses to discarded arm chairs, hanging on to their propellers. Certainly, as one contestant observed, the Hudson River is no longer the place for a hard-working motor boat owner who wants to run a racing craft and still retain a fair chance of remaining a Christian.

The prizes in the three days' carnival fell to the following boats: Thos. F. Cheseborough's Restless, 40 feet over all, with a 200-horsepower Herreshoff engine, carried off the International Championship Trophy; Tartar, Ralph D. Slavin's 60-footer, with a 301.56-horsepower Speedway engine, won the National Trophy; A. E. Smith's 20-foot Edith II, with a 31.41-horsepower American and British engine, annexed the Inter-State Trophy; Avis, a 65-footer, with an 84.82-horsepower Craig engine, owned by F. C. Haven, Esq., won the Motor Yacht Trophy. The Cabin Launch Trophy fell to Spindrift, 41 feet 6 inches over all, with a 26.18-horsepower Ralaco engine, while 21-foot Bunk III, with a 4.40-horsepower Rochester engine, owned by Clement Firth, Esq., took the Open Boat Trophy. Edith II also carried off another prize—being first in the Poughkeepsie race for speed boats. James Simpson's 28-foot Peter Pan III, with 31.41-horsepower American and British engine, took the time prize in the same event, while among the cruisers of the Peekskill race, F. D. Giles' Elmo II, 34.13 feet overall, with an 18.84-horsepower Standard engine, took first prize in the under 40 feet class, and M. Frank Dennis' Caroline, 66 feet 3 inches length over all, with a 37.63-horsepower Standard engine, was the winner in the cruisers of over 40 feet.

The find of the season was undoubtedly the Tartar, designed and built by the Gas Engine & Power Company and Chas. L. Seabury & Co., Consolidated, of Morris Heights, New York City, for Ralph E. Slavin, Esq. A big boat in every way—she is 60 feet in length—she did not show her bigness; and she went so easily through the water and kept herself and crew so dry that it was hard to realize that she was making over 35 miles an hour.

The number and the quality of the entries showed that the association had certainly succeeded in interesting a representative body of boat owners. The manner in which the races were started and the splendid accommodations furnished by the house boat Nadjme left nothing to be desired, and if, next season, the association will select a really good body of water for holding the events, there is no earthly reason why representative craft from all over the country should not make it a point to attend.

The traffic on and the drift in the Hudson River are increasing to an extent that makes it an undesirable course for future regattas where lightly built racing craft are entered, and for the comfort of the contestants, Northport Bay would certainly prove far preferable, and it is to be sincerely hoped that this latter location may be chosen for next season.

The Lessons of the Carnival Races

BY E. W. MARSHALL

Member American Society of Mechanical Engineers

There are many important lessons which may be derived from an analytical study of the Carnival races held in the Hudson River,

Photograph by N. L. Stebbins.

September 21-24, under the auspices of the National Association of Boat and Engine Manufacturers.

First of all, races for high-speed boats must be run in *water,* and not over rubbish piles or driftwood. The results of the races were simply disastrous and the boats which came through the series without injury were fortunate, or perhaps their helmsmen were good dodgers.

Here is a list of such mishaps as the author knows of: On the first day Tartar, It, Peter Pan III, Sand Burr, Traver and Eronel hit logs. On the second day Nameless was so seriously injured by driftwood that she had to be beached. Other log-hitters on that day were Restless, It, Peter Pan III, Traver and Kathmar. Tartar carried a peach basket around with her on her propeller for 2 rounds. Haida-Papoose also reported a broken intake pipe from striking driftwood. On the third day there were five boats troubled with the drift—It, Peter Pan III, Edith II, Vita and Spindrift.

The list includes all but four of the speed boats which started in any of the races, and as some of these had troubles all the way from overheated bearings to serious fires, some who have been converted into believing in the safety and reliability of motor boats are in danger of backsliding. But remember, friends, that these were all racing machines built to run through water, not through logs, and note that in the long-distance race for cruisers there were fifteen starters and fifteen finishers.

We are sorry to relate that as in the past there were a few quitters—would not go into a second or third race after they found, as they thought, that they had no chance to win. That's not the spirit of sport. Besides, in several cases the figures show that if these same men had done as well with their boats as they did in the first race they would have won. How could they tell whether or not their opponents were going to pick up a peach basket, or strike a log, or have engine trouble?

It is the purpose of this article to compare racing results with rating rules to find out how nearly practice coincides with theory, and how effective the present rules of the American Power Boat Association are in meeting the requirements of the handicapping, and to deduce certain lessons from such comparisons.

CRUISERS

The table at top of page 345 shows the American Power Boat Association rating of the cruisers which took part in the Carnival races, the theoretical speed which these boats should make figured on the basis of each 24 feet of racing length giving a speed of 1 nautical mile per hour, on which the handicap tables are compiled, the actual time made, and a comparison between the theoretical and the actual time.

On the day of the Peekskill race the current was running up in the morning and down in the afternoon. All the boats turned the stake between 11.51 a. m. and 2.18 p. m. Consequently the time made in this race is faster than that made in the others—2.038 miles per hour faster. For the purpose of getting at their actual running rate this 2.038, due to tide currents, has been subtracted from all. The efficiency column shows what percentage of the theoretical speed was made. These average 71.93 per cent. This shows that for cruisers the handicap is too great by over 28 per cent. The writer advocates using three-quarters of the time allowance on boats of this class or changing the rating formula.

Last year a large amount of reliable data were available. Some 60 performances under the same rating rule of 28 cruisers were figured out in the manner herein described and the average efficiency was found to be 78.6 per cent. Of such of the boats as were considered last year and this year, some had a slightly higher efficiency last year and some a lower, so the average must be fairly accurate.

Let him who has a boat which rates 48 and should make 11.52 miles per hour, but only makes 9, cheer up—that's all the other fellow does. Or let him who is designing a boat and wishes to know what speed she will actually make figure her probable rating according to the A. P. B. rules and multiply the result by .75.

Of the above 15 boats but two had two-cycle motors. These two had an average efficiency of 72.89, a little higher than the total average. Of the boats which had an efficiency greater than the average, it is interesting to note that their A. M. S. averaged 29 per cent. of their L. W. L., and that their figured H. P. was 63 per cent. of their L. W. L., expressed in feet, while the A. M. S. of those boats with efficiency below the average was smaller in proportion, i. e., 26 per cent. of the L. W. L., and their figured H. P. ran up to 107 per cent. of their L. W. L.

It would seem, therefore, that to obtain the best efficiency under the

MEASUREMENTS, ETC., OF ENTRIES IN 1910 NATIONAL MOTOR BOAT CARNIVAL.

Name.	L. O. A.	Motor.	H. P.	Rating.
Avis	65′	Craig	84.82	64.08
Bunk III	21′ 2″	Rochester	4.40	36.63
Caroline	66′ 3″	Standard	37.63	41.02
Dell	36′ 27″	Mercury	17.66	50.04
Edith II	20′ 1″	American and British	31.41	66.74
Edmee	79′ 55″	Speedway	113.08	67.14
Elmo II	34′ 13″	Standard	18.84	37.92
Eronel	45′ 3″	Craig	37.68	48.33
Gracelda	30′ 8″	Ferro	12.82	38.34
Gunfire II	25′	Mercury	31.09	70.70
Haida Papoose	21′ 7″	American and British	31.08	68.40
Hie On	35′	Fulton	19.30	45.18
Ibis	25′	Vim	19.76	70.38
Imp	21′	Gray	4.63	35.28
It	23′	Watertown	24.95	68.94
Kathmar	40′	Trebert	37.68	44.46
Lance	24′ 6″	Lackawanna	20.20	77.20
Marie	Over 60′	Buffalo	75.60	52.20
Nameless	39′	Herreshoff	400.00	.....
Nutmeg	35′	.....	.....	42.32
Peter Pan III	28′	American and British	31.41	72.18
Petite	17′	Waterman	7.00	50.40
Quadrant II	36′	Holmes	29.22	50.22
Rapier	45′ 1″	Jencick	88.30	96.48
Red Raven	35′ 5″	American and British	31.41	68.94
Restless	40′	Herreshoff	200.00	.....
Sand Burr	29′ 9″	Erd	57.69	89.09
Spindrift	41′ 6″	Ralaco	26.18	43.30
Talequah	20′ 33″	Erd	3.28	33.30
Tartar	60′ 45″	Speedway	301.56	134.28
Traver	28′	Emerson	57.71	111.42
Vanish	25′	Watertown	25.43	70.56
Vim	24′ 10″	American and British	31.08	74.70
Vita	20′ 1″	American and British	31.41	66.74
Wanderlust	Over 60′	Standard	67.01	56.88
Wyandance	61′	Craig	75.32	68.04
X. P. D. N. C	.....	Mercedes	.....	92.50

RESULTS 1910 NATIONAL MOTOR BOAT CARNIVAL.

LONG-DISTANCE RACE TO POUGHKEEPSIE AND RETURN, WEDNESDAY, SEPTEMBER 21ST, 1910. 115 NAUTICAL MILES.

Class.	Name.	Allowance.	Finish.	Elapsed.	Corrected.	Place.
	Edith II	2.13.03	3.23.21	5.48.21	3.35.18	1
	Peter Pan III	1.40.13	2.57.43	5.22.43	3.42.30	2
	Vanish	1.49.21	3.22.23	5.47.23	3.58.02	3
	Teaser	1.58.06	4.48.45	7.13.45	5.15.39	4
Racers	Sand Burr	6.56	4.16.59	6.41.59	6.35.03	5
Started 9.30 A.M.	Rapier	Scratch.	Did not finish.			
	It	1.59.18	Disabled.			
	Ibis	1.50.30	Did not finish.			
	Gunfire II	1.48.46	Disabled.			
	Red Raven	1.59.18	Did not finish.			

LONG-DISTANCE RACE TO PEEKSKILL AND RETURN, WEDNESDAY, SEPTEMBER 21ST, 1910. 60 NAUTICAL MILES.

	Caroline	2.24.22	4.00.06	6.20.06	3.55.44	1
	Spindrift	2.05.49	3.48.47	6.08.47	4.02.58	2
	Eronel	1.29.59	3.27.09	5.47.09	4.17.10	3
Cruising boats	Avis	13.26	2.12.51	4.32.51	4.19.25	4
Over 40 feet.	Wanderlust	43.02	2.47.33	5.07.33	4.24.31	5
Started 9.40 A.M.	Edmee	2.58	2.12.56	4.32.56	4.29.18	6
	Marie	1.06.47	3.18.35	5.38.35	4.31.48	7
	Wyandance	Scratch.	2.36.25	4.56.25	4.56.25	8
	Elmo II	2.01.52	4.08.11	6.28.11	4.26.19	1
	Gracelda	1.57.49	4.26.01	6.46.01	4.48.12	2
Cruising boats	Dell	26.16	3.05.50	5.25.50	4.59.34	3
Under 40 feet.	Quadrant II	25.04	3.11.28	5.31.28	5.06.24	4
Started 9.40 A.M.	Kathmar	Scratch.	2.48.55	5.08.55	5.08.55	5
	Hie On	58.07	3.50.04	6.10.04	5.11.57	6
	Nutmeg	1.20.52	4.20.20	6.40.20	5.19.28	7

SERIES RACES, SEPTEMBER 22D, 23D AND 24TH, 1910. FIVE-MILE TRIANGULAR COURSE. CLASSES A, B, C, 30 NAUTICAL MILES; D, E, F, G, 20 NAUTICAL MILES.

		Thursday.		Friday.		Saturday.		
Class.	Name.	Elapsed.	Corrected.	Elapsed.	Corrected.	Elapsed.	Corrected.	Point.
B	Tartar	1.01.12	1.01.12	1.08.54	1.08.54	1.01.34	1.01.34	9
B	X. P. D. N. C.	1.27.24	1.02.10	Did not start.		Did not start.		2
B	Rapier	Disabled.		Did not start.		Did not start.		..
C	Restless	1.19.35	.....	2.18.47	.....	1.39.27	.....	6
C	Nameless	1.19.48	.....	Disabled.		Did not start.		1
A	Edith II	1.34.02	1.22.01	1.23.39	1.21.32	1.42.43	1.29.36	29
A	Peter Pan III	1.32.10	1.28.34	1.30.12	1.26.44	Disabled.		18
A	Vanish	Withdrew.		1.32.55	1.27.05	1.29.22	1.23.32	18
A	Vim	1.30.07	1.30.07	1.32.02	1.32.02	Disabled.		15
A	It	1.45.10	1.36.44	Hit a log.		Hit a log.		6
A	Sand Burr	Struck a log.		Did not start.		Did not start.		..
A	Haida Papoose	1.41.34	1.32.20	Hit a log and tore off intake scoop.				..
A	Lance	Withdrew.		Did not start.		Did not start.		..
A	Vita	Withdrew.		Did not start.		Disabled.		..
A	Traver	Hit a log.		Disabled.		Did not start.		..
D	Avis	1.44.53	1.44.53	1.41.42	1.41.42	1.45.31	1.45.31	6
D	Caroline	3.02.47	2.18.49	2.39.07	1.55 09	Did not start.		2
E	Spindrift	2.42.54	2.39.48	2.33.04	2.33.04	2.26.13	2.26.13	6
E	Eronel	Hit a log and broke crankshaft.						..
F	Kathmar	2.13.32	2.13.32	2.07.07	2.07.07	2.03.15	2.03.15	6
F	Gracelda	2.59.25	2.20.09	2.48.26	2.09.10	Did not start.		2
G	Petite	2.35.34	2.35.34	Disabled.		Disabled.		2
G	Bunk III	3.01.56	2.24.32	Assisted Nameless.		2.49.28	2.49.28	7
G	Imp	3.40.57	2.58.29	3.20.17	3.20.17	2.59.11	2.54.09	4
G	Talequah	3.02.27	2.11.30	Assisted Nameless.		Did not start.		4

EDITH II, WINNER LONG DISTANCE EVENT AND INTER-STATE TROPHY.

VANISH, CLASS A, SCORED 18 POINTS IN THE SERIES EVENT.

	Rating.	Theor.	Actual Speed in Peekskill Race.	Series Races.			Averages.	Efficiency.
Wyandance..	68.04	16.33	12.162	.....	.....	.....	10.124	62.00
Edmee.....	67.14	16.11	13.188	.....	.....	.....	11.15	69.21
Avis.....	64.08	15.38	13.186	11.429	11.803	11.392	11.443	74.40
Wanderlust...	56.88	13.66	11.726	.....	.....	.....	9.688	70.92
Kathmar....	54.80	13.15	11.650	8.933	9.449	9.756	9.438	71.77
Marie.....	52.20	12.53	10.651	.....	.....	.....	8.613	68.74
Quadrant....	50.22	12.05	10.876	.....	.....	.....	8.838	73.34
Dell.....	50.04	12.01	11.043	.....	.....	.....	8.905	74.15
Hieon.....	45.18	10.84	9.730	.....	.....	.....	7.692	70.96
Eronel.....	48.33	10.67	10.465	.....	.....	.....	8.427	72.46
Spindrift....	43.30	10.39	9.756	7.377	7.843	8.219	7.787	74.95
Nutmeg.....	42.32	10.16	9.000	.....	.....	.....	6.962	68.52
Caroline.....	41.02	9.85	9.474	6.589	7.547	.....	7.183	72.92
Graceida....	38.34	9.20	8.867	6.691	7.129	.....	6.883	74.83
Elmo II.....	37.92	9.10	9.302	.....	.....	.....	7.264	79.82
						Average.....		71.93

present rating rules, boats of this class should have a comparatively large midship section and be not overpowered; that is, they should have a figured horsepower not more than 10 per cent. greater than their load water line expressed in feet.

SPEED BOATS

The Tartar, Xpdncy, Restless and Nameless are so much larger and heavier powered that comparing them with the other boats would not meet the purposes of this article. In passing, though, it is well to notice the maximum speeds in knots made by these boats during any round of any race.

Tartar, 30.769; Xpdncy, 21.302; Restless, 26.866; Nameless, 26.277. The other speed boats, as the following table will show, are near enough alike to make comparisons between them profitable.

The efficiencies of the Traver and Lance have not been computed, as, obviously, these boats can do much better than they did in these races. Traver was hampered and disabled by floating débris, and Lance made one round almost 10 per cent. faster than her theoretical speed.

Of the four boats which took part in both the long-distance race and the series races, it is of interest to note that in spite of the long course three ran better in the former than in the latter, doubtless because of the favoring currents. These three boats, in fact, ran with 4.9 per cent. better efficiency, or an average of .823 miles per hour faster in the long-distance race than their average speed in the series races. These figures show that the class of speed boats such as took part in these races "beat the rule" 9 per cent. A large amount of data gathered from last year's races showed that such boats ran about 4½ per cent. higher than their theoretical speed. Evidently they have been improved, or the current and weather conditions were better now than then. (Perhaps — perish the thought—the course was short.) At any rate, the ratings are slightly under what they should be.

A mere analytical study of the boats themselves brings out some interesting facts. The boats with four-cycle engines did 5.8 per cent. better than did those with two-cycle engines, although Vanish, which had a two-cycle engine, was one of the most efficient ones. The engines having a shorter stroke than bore also had a decided advantage over the others. Comparing the area of midship section to the L. W. L., and the figured horsepower to the L. W. L., we get these figures:

SPEED BOATS, SERIES RACES, SIX TIMES AROUND, FIVE-MILE COURSE.

Boat.	Rating.	Theor. Speed.	Actual Speed.	Maximum.	Average.	Per Cent. Efficiency.
Traver.....	111.42	26.74	10.465 (1 round.) 16.901 (2 rounds.)	20.69	13.683	.....
Sand Burr.....	94.32	22.64	20.339 (3 rounds.)	20.339	20.339	89.8
Lance.....	77.20	18.53	14.815 (2 rounds.) 13.043 (3 rounds.)	20.339	13.929	.....
Vim.....	74.70	17.93	20.000 (6 rounds.) 19.565 (6 rounds.) 19.459 (6 rounds.)	20.455	19.875	110.8
Peter Pan III.....	72.18	17.32	19.565 (6 rounds.) 20.000 (6 rounds.) 20.455 (4 rounds.)	20.809	20.007	115.5
Vanish.....	70.56	16.94	19.355 (6 rounds). 20.112 (6 rounds.)	21.687	19.733	116.5
Haida Papoose.....	68.40	16.42	17.734 (6 rounds.) 16.744 (4 rounds.)	18.274	17.239	104.9
Edith II.....	66.74	16.02	19.149 (6 rounds.) 19.251 (6 rounds.) 18.274 (6 rounds.)	19.565	18.891	117.9
					Average.....	109.2

POUGHKEEPSIE RACE, ONE HUNDRED AND FIFTEEN NAUTICAL MILES.

	Rating.	Theor. Speed.	Elapsed Time.	Average.	Per Cent Efficiency
Sand Burr.....	94.32	22.64	6.41.59	17.225	76.1
Peter Pan III.....	72.18	17.32	5.22.43	21.429	123.7
Vanish.....	70.56	16.94	5.47.23	19.890	117.4
Teaser.....	69.12	16.59	7.13.45	15.928	96.0
Edith II.....	66.74	16.02	5.48.21	19.780	123.5
				Average.....	107.3

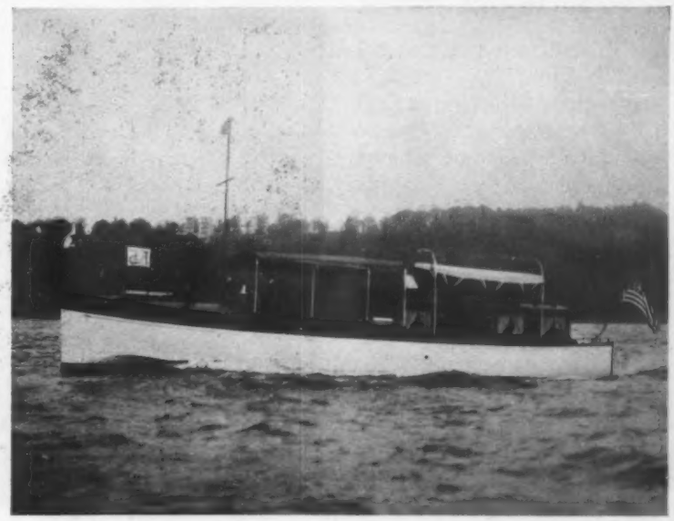
	A. M. S.	H. P. Compared With L. W. L.	Efficiency
Sand Burr.....	.088 of L. W. L.	2.001	89.8
Vim.....	.086 of L. W. L.	1.243	110.8
Peter Pan III.....	.096 of L. W. L.	1.110	115.5
Vanish.....	.082 of L. W. L.	1.016	116.5
Haida-Papoose.....	.123 of L. W. L.	1.475	104.9
Edith II.....	.132 of L. W. L.	1.563	117.9

From this it would seem that the proportion of the midship section has but little effect on the result; that is, the rating rule properly covers this point. The average of boats which had the highest efficiency were powered with engines having a figured horsepower equal to 1.23 times their L. W. L. expressed in feet.

Obviously, the personal element has a great effect upon all racing results. Unfortunately this cannot be reduced to figures. So, also, has the design of the boat, the proper proportioning of propeller, hull and power, and the construction of the boat itself, a most important influence on the boat's efficiency. The latter factor is especially variable in boats of the cruiser class which are not primarily designed for racing.

In order to even things up a little better without disturbing the admirable system of measurements now in use the rating formula might be changed as follows:

(Continued on page 338.)



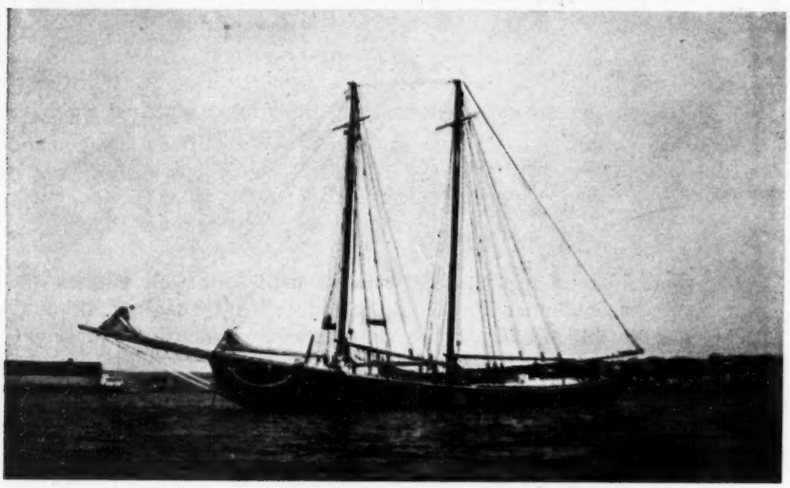
KATHMAR, CLASS *F*, SCORED 6 POINTS IN THE SERIES EVENT.

A Winter Fishing Trip to George's Shoal

By GEORGE S. GOLDIE

Photographs by the Author

IN order to get at first hand some idea of the rigor of trawlers' lives on Georges Shoal in winter time, I decided to make a trip myself in one of the schooners running fish to the Boston market. So, having made the necessary arrangements, I boarded a train in Boston one morning early in February, when the wind and rain were driving in great sheets through the streets, bound for Gloucester to join the vessel. On arriving at that famous fishing port I conveyed my dunnage to Fresh Fish Wharf and stowed it away aboard of the Lizzie M. Stanley, one of the well-known McManus model fishing schooners. Captain Stanley, her owner, not being aboard, inquiry developed that he was one of a group of skippers in the upper story of the Bait Office, a two-story frame structure located on the end of a dock. The room in which the skippers of a number of Gloucester vessels had congregated was so close to the edge of the dock as to give one the sense of overhanging the water.



IN FIGHTING TRIM. A GLOUCESTER SCHOONER READY FOR A WINTER'S TRIP TO GEORGES.

A game of "Loo" was in progress, and Captain Simons was cursing his luck at passing a hand that the skipper to leeward had picked up and won the pot with, when a blast made the building reel.

"Snarling cats!" exclaimed Captain Ostley, amid a general grasping at the table, "we will all be in the drink."

At this moment the door opened and Skipper Frazier pushed in, the rain still streaming off him. "'Tis blowing a gentle zephyr, boys! Yes, a gentle zephyr," he murmured, as he scraped the rain from his face with a hooked forefinger. Anxiety for his vessel here caused one skipper to raise a window and roar out instructions to a towboat that was passing below. The schooner was towed from the dock where she was chafing to a less exposed situation, and the game went on.

At nine in the morning the rain had changed to snow and the crew were arriving in twos and threes. All the men were soon aboard but the "gang from Boston." When these arrived, about 9:30, a tug made fast, and we were hurried outside of Ten Pound Island, where sail was made.

Now, mind you, in all of the stir of our departure there had been no word of farewell from or to anybody, and this notwithstanding that we were bound for the dreaded Georges Shoal, on whose rocks and sands lie the bones of six thousand men, contributed at different times from the flower of Gloucester's manhood.

"Oh, the black, black night on Georges,
When eight-score men were lost!
Were ye there, ye men of Gloucester?
Aye, ye were there, and tossed
Like chips upon the water
Were your little craft that night,
Driving, swearing, calling,
But ne'er a call of fright.
Then knowing ye for what ye are,
Ye masters of the sea,
Here's to ye, Gloucester fishermen,
A health to you from me!"

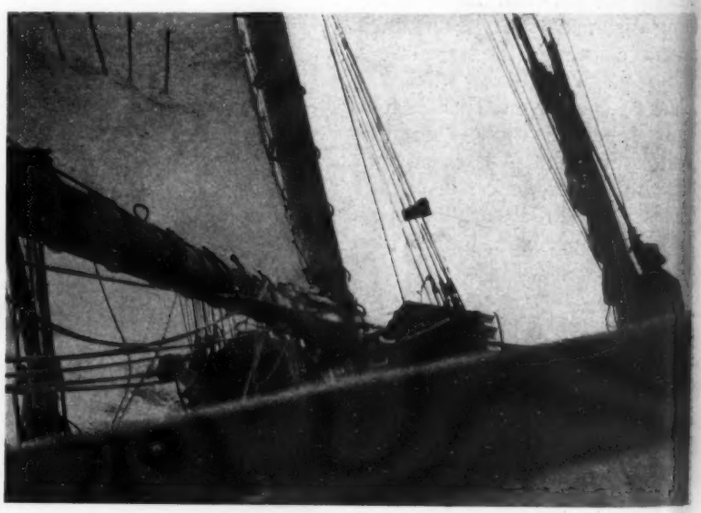
Greetings at the return are hearty enough; the departure is performed in silence.

Though it was blowing hard from the northwest and snowing, the fleet, having been stormbound for two days, was departing as hastily as possible. Just ahead of us was a fine new schooner, the Benj. F. Smith, one of the best of them, with her crew of 26 men, carrying 11 dories. Upon getting outside and feeling the strength of the breeze, she turned back under the land and furled her mainsail. Soon she appeared from out behind Eastern Point, showing the foresail and head sails only, and squared away on the E. ½ S. course for La Have Bank, about 300 miles away, and was lost to view in the snow. Our course was held E. S. E. and "nothing to" for the northern edge of Georges Bank.

The snow squalls shut out Gloucester and then Cape Ann, permitting us occasional glimpses only of the twin lights on Thatcher's Island. The log was hove here, as a guide for our arrival at the Bank.

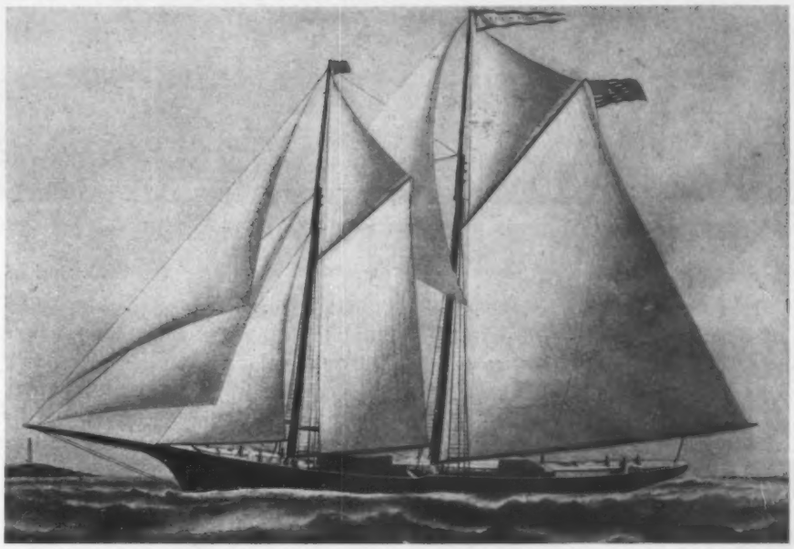
For several hours we ran, with a growing breeze on our quarter and astern. Finally it became so heavy that the Captain ordered the mainsail stowed, though there was small comfort even then, with the snow and the cold, gray seas that chased after and past us.

All that night we raced toward the shoal that yields such large



ON THE PASSAGE TO THE BANKS.

catches and obtains such dreadful toll. The wind grew to the strength of a gale, and the seas toppled aboard and pounded our decks, and we rolled heavily. At daybreak a steamer, bound westerly, was reported two miles to the north of us. The log was hauled, showing 131 miles run. These two circumstances told the skipper that, by the log, we were abreast the ridge of the shoal, and, as the Boston-bound steamer lane lies 20 miles to the north of it, we were about 18 miles to the north of its edge. A sounding was taken here, placing us in latitude 42.12, longitude 68. The course was changed to S. E. by E. In all of this narrative note the precision with which the Gloucester captains can, without sight of the sun or astronomical readings of any kind, tell the position of the vessel. The lead, that wonderful instrument, simple yet positive, and the knowledge of what the tallow, or butter, in the hollow of its end brings up from the bottom, are the means by which they work their way despite fog, snow or storm.



GLOUCESTER SCHOONER LIZZIE M. STANLEY, ON WHICH THE TRIP WAS MADE. FROM A PAINTING IN THE POSSESSION OF CAPT. STANLEY.

During the winter the tip of the ridge of the shoal, which has on it only from 12 to 18 feet of water, is given a berth of about 20 miles by the fishermen, as it is usually a mass of breakers, being kept in that condition by the constant succession of storms. The ridge is about 15 miles long and 2 or 3 miles wide. This crest has from 12 feet least depth to an average of about 45 feet. This latter depth might seem enough water for any vessel, but the rushing in of the heavy swells of the winter storms of the Atlantic on to a bank having but 45 feet of water over it causes the sea to rise to such a height and take on such a crested or pointed formation that no vessel could withstand its blows. During the tranquil seas of summer, however, the seining fleet sail and drift over and over the ridge of the shoal.

We arrived on the northern edge of the shoal during the afternoon and located our position by sounding as latitude 42.09, longitude 67.10. On this northern edge the men set only one tub of trawl at a time, as the rocky bottom and the strong current render the trawl liable to get fast in the bottom and part. They may take three or four tubs into the dory and set only one at a time, or they may take two tubs and, after hauling one, bait it while the other trawl is setting. As a rule, setting eight tubs of trawl is called a day's work. We set here a couple of strings of trawl to find out whether the fish were there in paying quantities. The catch was small.

After all were aboard and the fish dressed and stowed, the usual guesses on the next day's weather were made. Some predicted a fine day, but our captain said, "A sou'wester; the stars are all dancing out of the sky."

As we were chatting after supper Captain Stanley told me of the attempts to use the gasolene motor in the fleet, citing the case of the Silsbee, an elegant vessel, with a 300 H. P. motor. This was an extreme amount of power, using about 30 gallons of gasolene an hour, and requiring an engineer at about $75 a month, the motor costing about $9,000. The burden at first was too great, and the question of whether it could be made to pay will remain unsolved because of the schooner going ashore in a gale to the eastward of Cape Sable. With the motor she could drive full 11 knots an hour. A moderate motor of about 75 horse-power, with low gasolene consumption, giving the vessel a speed under power of about 5 miles, seems at present a paying proposition.

Georges Shoal proper is about 110 miles from west to east and 50 to 90 miles from north to south, within the 50-fathom curve. In speaking of the government surveys of the shoal, the skipper told me of an uncharted hole of 73 fathoms depth that he found about 13 miles to the eastward of the crest, which will be called

BAITING TRAWL ON THE STANLEY.

COD WEIGHING 60 POUNDS ARE FREQUENTLY CAUGHT ON GEORGES.

THE CREST OF A SWELL STRIKING DORY. MEN NEARLY THROWN OUT.

RIDING TO A TRAWL BUOY IN CALM WEATHER.

DORY RIDING OCEAN SWELL ATTACHED TO TRAWL BUOY.

the ridge for convenience' sake. Happening to set across this hole, it was found to be a bonanza of halibut. So they fished it, this, that and the other way until there was not a halibut left in it.

At 4 a. m. a sounding gave 36 fathoms and placed us in latitude 41.40, longitude 66.45. "Bait up, boys!" went through

SEEING WHAT THE LEAD BROUGHT UP.

the ship, and immediately the rustling of oilskins filled the air.

"Four tubs, boys!" was the next order. There being some doubt as to the actions of the wind, breakfast was delayed until 6 a. m.

At daylight, with the breeze blowing fresh and growing, it was, "Lower the windward dory!" and, after the proper distance had been opened out from it, "Lower away lee dory! Set one tub, boys, and take the range from the beam!"

Soon the dories were all out. The sky was filled with heavy, wet clouds; a particularly bad thickening was going on in the southwest, and soon it came in a roaring squall, sending the schooner down beyond her scuppers, filling the air with rain, and shutting from sight all but one of the dories. Many were the hard struggles the men had that morning; but, with the exception of some trawl being lost, all went well.

The flag (a large gunny sack, caller the "queer thing") at the main peak told the men when to haul. It had been raised and lowered several times, and the men began coming aboard. The catch had been fairly good, and all were pleased.

Another vessel was seen off to windward that was not fishing on account of the weather, and the men began to berate her. "Her skipper ought to be ashamed of himself for keeping his dories aboard when a vessel beside him is fishing," said one. "What's he waiting for, good weather?" spoke up another. "He would wait a long time for good weather at this season of the year!" And this is the spirit that urges on the men of the fleet.

At 11:30 dinner was over and the men all away again, the rain pouring steadily and the sky looking ominous. To see a dory rush up the side of a long sweeper and flop over the edge of its tottering crest was something that would keep the eyes riveted, and to watch the men hauling and tugging at the trawl, being thrown on their knees and elbows by an upward spring of the bow, but still hanging to the trawl line, or take a lurch over the gunwale as the dory side-stepped beneath them, was a sight to fill one with a kindly feeling toward these men, who take their lives in their hands as a matter of course that they may earn a living.

"Don't wait for signals; fish as you please!" was the word that was shouted to each dory as the schooner passed to leeward of them. In all the turmoil a dory was reported as having parted her trawl. The schooner sailed up to her, and what do you suppose the men wanted? To be taken aboard? No; it was another tub of trawl!

Soon the skipper roared out that another had parted, and, shortly after, another.

"By hooky, look at those fellows! What can be the matter with them? By hell! we would need to set trawl in a well!"

But there is a limit to the hardiness and endurance even of Gloucester trawlers. To add to the infernal sweep and rush that was going on, down came another squall from the southwest—a vicious, blinding affair that closed in everything in its path. This was too much. Up went the "queer thing" to call the men aboard. Did they come? Well, yes—when they had finished hauling their trawls. All but one dory. Men were sent into the rigging to search for it, and soon it was sighted coming through the thickness to windward. There were a number of halibut in the day's catch, and these were particularly welcome, as they brought an extra price.

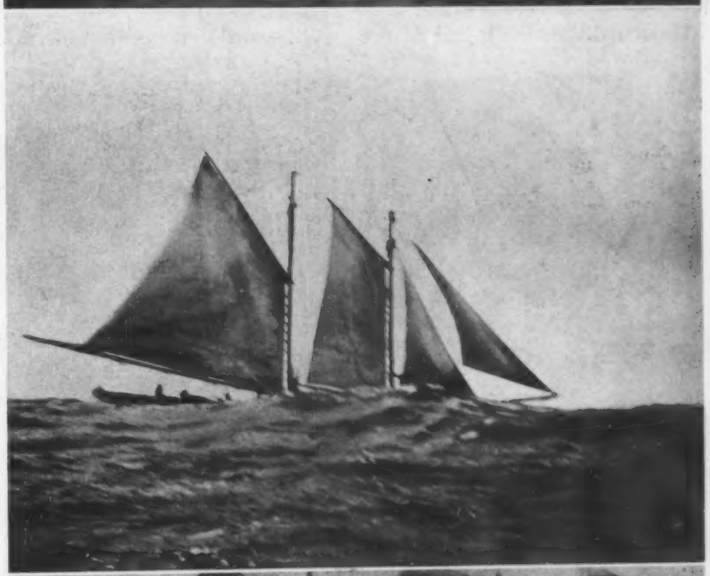
The wind had now reached a height that caused the mainsail to be furled, and the schooner was put in trim for jogging for the night. After supper, when all was at peace—if peace it can be called when one is sitting in the interior of a tiny schooner that is cavorting with great rushes and side leaps on the winter surges of

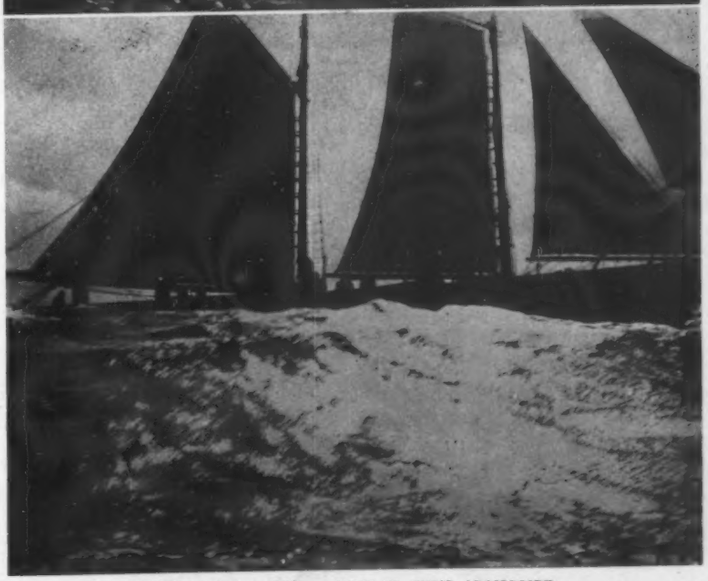
IN WINTER COSTUME.

the Atlantic over the populous "graveyard" that lies but 30 or 40 fathoms below—the skipper was reminded of the "Portland breeze" of 1898, so called because of the loss of the steamer Portland. In the same blow he had been hailed off Georges Shoal by a barge from the Great Lakes that had broken away from the tow. The captain of the barge asked where he was. On being told that the crest of the shoal was under his lee, he asked how much water there was on it, and answered, on being told, 'B' gosh! my craft can float in that much water, 'n' I'll sail right over it 'n' head for New York!"

After being persuaded that no vessel could sail through that mass of breakers, he bargained for a tow to Nova Scotia, first having refused to abandon his vessel, for she was in perfect condition. Eight men were put aboard from the schooner to handle the barge's sails and the attempt was made. Soon the wind headed them and commenced to blow a gale. The schooner stood by all day. As night approached, giving evidence of a full storm, Captain Stanley decided that the barge was no place for his men and signaled them to come away. After much argument, they got the barge captain to leave with them. It took the schooner five days to make port, and the barge was never heard from.

Captain Stanley then told us how, in the following February, he was fishing in the "channel" to the east of Nantucket, when a nor-easter sprang up so quickly that he decided, for safety, to put to sea. "I headed her to the southeast," he said, "until we had put the ridge of Georges between us and the blow, the ridge being about 15 miles away. She was then hove-to, but had not laid long before the wind shifted to the west-southwest, placing the shoal directly to leeward. We couldn't lay and drift straight on, so I decided to 'run her' and try to work past. As soon as the wind got a show away went the foresail at the reefing points, and the mainsail whipped clean out of the stops. From the gait that sail started with, boys, I believe it is going yet!





LIFTING OVER A SEA. DORY IS SEEN ALONGSIDE.

THE STANLEY BEING SMOTHERED BY A SEA. THIS PHOTOGRAPH WAS TAKEN FROM THE DORY.

WHEN THE DORY LIFTS ON ONE OF THESE SEAS ITS OCCUPANTS MUST LEAP FOR THE SCHOONER'S RAIL.

"Well, there was nothing left to do but run her and keep trying to work out. We were doing fairly well, when along comes a great comber, looking as though it was going to break over the stern. The fellow at the wheel gave a yell and ran forward, the schooner sheered to starboard, was thrown flat on her beam ends and pushed forward by that wave like a snow shovel into the slush. As soon as the wave let go of her she righted, and such a sight! Main boom and gaff broken; cabin so full of water we thought she was sinking; all the gurry from the kids forward washed into the cabin, and the stove in pieces. Later, we found the chain cable in the coal locker, and that all the fish from the starboard bins had emptied into the bins on the port side, not one of them having fallen to the floor. There was no let-up for us; it looked now like the shoal, sure. We were going to live as long as we could; so we lashed the coil of the riding cable, dropped it over for a drogue, and payed out a good length on the line. Then we started to pump. While we were doing this the breeze shifted to west-nor'-west, and we were saved, the wind driving us clear of the shoal.

"After things had got steadied a bit, we found that a man could put his hand down between the deck planking and the cabin house on the starboard side, and between the deck planking and the side of the schooner on the port side. That one wave had nearly torn her to pieces."

At 3 a. m. next morning it was, "Bait up!" and it would do you good to see the readiness with which the men tumbled out of their bunks and, without a murmur, drew on their oilers and boots! No other preparation is necessary, for, from the time of starting to the time of hauling in to the dock on the return, every man sleeps in his clothes and is ever ready.

There was a brisk breeze and a tide-rip sea, for the current runs strong here, being of about 3 knots velocity — so strong that, at times, many fishermen will lower a basket, or anything bulky, down a few fathoms and let the strength of

the tide tow them to windward. The water was rough, and the men were wishing that the N. E. breeze would either blow harder or let up, yet we might have laid there for weeks and not found it any better. In fact, vessels have laid there fifteen days at a stretch without being able to lower a dory for fishing.

Shortly after daylight a cast of the lead showed 38 fathoms and placed us in latitude 41.40, longitude 66.27. The order to lower away was heard, and the boats were quickly dropping astern. Skipper was hoping for a fair catch of cusk here on the rocky bottom of the northern edge of the Bank. It was soon evident that, for this morning at least, the sea cared little that Gloucestermen were trying to wrest part of its wealth from the depths. It tore the fish from the hooks, parted the trawls and buoy lines, filled the dories, and compelled the men to come aboard with small catches and ugly feelings at the thought of the grapplings, sinkers and trawl that the sea had taken from them, especially as there were no spare sinkers aboard. Sinkers are weights of five or six pounds that, in these waters, are attached to the first end of the trawl when it is let down to the bottom; the trawl is then payed out and the last end is dropped with an anchor attached; to the anchor is also a buoy line that leads to the surface, where it is made fast to a cask; to the cask is fastened the riding line of the dory; and so plentiful are the fish on this stormy shoal that the men will ride to the buoy only 15 or 20 minutes before beginning to haul.

We had had enough of the swift current, augmented, as it was, by the northeast breeze, and of the rough bottom. "South, while the butter lasts!" was the word, and away we went to search for more fish and an easier bottom, the men meanwhile improvising sinkers by filling stockings and salt bags with coal and bottles with water.

The currents on Georges Shoal travel in a circle with the sun or the hands of a watch, and, on account of their strength and the liability of snarling the trawl, only one tub (2,400 feet), or at the most two tubs, is set at a time, and usually the fish are in such numbers that a longer line is unnecessary.

COMING ABOARD OVER THE LEE BOW.

By noon a cast of the lead was made; the depth, 32 fathoms, and the material brought up by the butter on the lead showed us to be in latitude 41.41, longitude 67. We had arrived on more favorable ground; the weather was better, and setting began.

Though the wind had moderated, a heavy swell was growing from the northeast, indicating a severe storm in that direction. This gave no concern, for a swell from the northeast is always caused by a storm the center of which is traveling *toward* the northeast, and as the storm, as indicated by the swell, was already to the northeast of us, we were fairly sure it would not come our way.

It was a sight worth going a long way for, to see the dories and the vessel lifting over those great mounds of water—the long, steady rise on the upward slope, the momentary pause on the top, and then the quick dropping out of sight over the edge. Full loads were the rule as the dories came in, Gordon and Jenkins reporting that "they did not dare set another string for fear of swamping."

"Never be afraid to do that while I am next dory, boy. I will always be ready to lighten you and get the credit!" said Foley, a man of easy ways. One of the dories arrived with only a couple of hundred pounds of fish. "For the Lord's sake, Tom, whose pond did you get those out of?" said the skipper, as he squinted over the side into her.

There is a quaint humor in the sayings of these men that goes to one's heart as he thinks of the disappointment that they must feel when the return for risking their lives sometime hardly pays for the bait used.

During the dressing of the fish clouds of sea gulls filled the air and disappeared as soon as the dressing was over. Between 8 and 9 o'clock we were called on deck to see several schooners in the distance dressing fish by torchlight. The catch for the day must have been large to keep them dressing so late. In the "channel," the water lying to the eastward of Nantucket Island, the sets are made according to the time of slack water, and when the slack occurs at night torches are carried by the dories making the set.

A heavy swell was now lifting and rolling us at an awful rate, and for a better brace those who were sitting on the lockers below shifted to the floor. One old roarer started all those on the port side sliding down to us on the starboard side, one of them landing clean on top of one of our fellows. A few moments later a coal scuttle started on a cruise to port and, with the generosity of all things on the sea, dumped its cargo into the lap of a port-sider.

Word was now passed below that we were drifting down upon another schooner. The Captain went on deck, sails were trimmed, and we were "sent" for a while to get a clear berth. A few years back vessels were lost much more freely than now, the cause being that vessels anchored thickly on favorable spots instead of "jogging," or being under way, as is the custom at present. When vessels were anchored close together, if one to windward parted her cable she would drift down upon the next one to leeward, and, crashing into her, that cable would part, and lucky it would be if both vessels sank before bringing destruction to other vessels in their lee.

The awful swell that lifted us skyward reminded our skipper of a young relative from Vermont who had never seen the ocean, and whom he had taken out with him on a winter trip to Georges. After lying in his bunk for several days, only leaving it to retch his stomach once in a while, the Captain thought it time that he went on deck. He was a hard-looking object, pale, haggard and bedraggled, but he was routed out and ordered on deck. Upon arriving there he hung on to the gangway for a moment, then slowly his head began to turn, and it nearly twisted off as he tried to take in the whole horizon in one sweep. When he had finished his survey he drew a deep breath, and was heard to say, "What a hell of a lake!"

And this night it surely was just what the Vermonter called it. There would be a great lift, a swoop, and bang would go the boom as it fetched up on the blocks, threatening the shackle.

Down would come my bunk-mate on top of me; a moment later I would be hanging desperately to the bunk riser to keep from returning the compliment. No position could be held long. The flat of the back was the favorite, but one's bones would grind through on the hard mattress. Sleep was rare that night and the next.

(To be continued.)

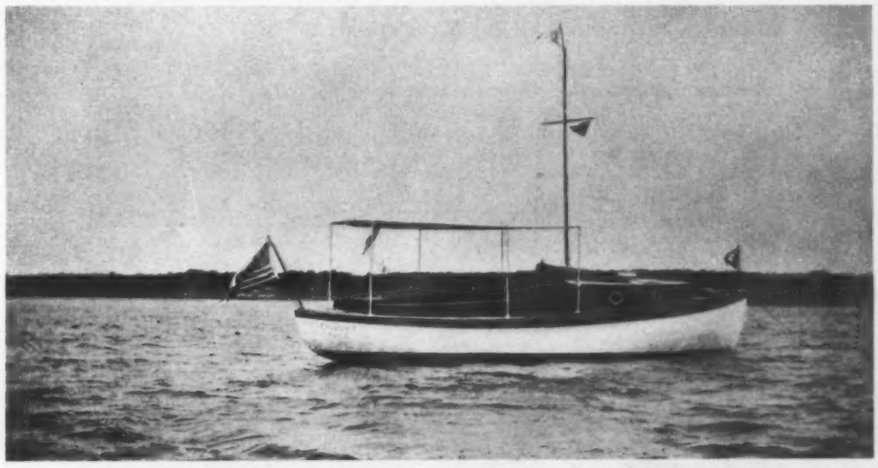
A Motor Boat Cruise up the Connecticut River

A CRUISING GROUND OF UNUSUAL BEAUTY BUT LITTLE KNOWN TO MOTOR BOAT OWNERS—DIRECTIONS FOR FOLLOWING THE CHANNEL TO HARTFORD

By HARRY BELKNAP

IT was a dark and cloudy morning when we came in sight of Saybrook Breakwater Light, at the mouth of the Connecticut River. A strong southwesterly wind drove the rain into our faces, while every now and then a deluge of salt spray came aboard as the Chequit II plunged her bows into a particularly heavy sea. We had had rather a rough trip to Saybrook from the Niantic River, where we had spent the night.

There were only two of us on the boat. I was captain, navigator and cook, while the other fellow was chief engineer, mate and deckhand. We had been out for about a week since leaving Shelter Island, our home port, and had already visited Watch Hill and Westerly, R. I., and Stonington, Mystic, New London, Norwich and Niantic, Conn. The Chequit II, the boat in which we were making the cruise, is a 30-foot, hunting cabin launch, with a military mast, and equipped with a two-cylinder, Twentieth Century engine.



CHEQUIT II AT ANCHOR IN THE CONNECTICUT RIVER.

It was raining harder than ever as we ran between the two breakwaters at the mouth of the Connecticut River, passed Saybrook Lighthouse and anchored off the Hartford Yacht Club house at Fenwick. The weather cleared somewhat in the afternoon, and I rowed ashore in the dinghy. After landing at the yacht club float, I walked up to the Fenwick Hall Hotel and thence across the long bridge to Saybrook Point, where I bought some groceries and supplies, and then returned to the boat. Fenwick is a popular summer resort, and gets its name from the fact that Lady Fenwick, the first white woman that died in America, was buried nearby.

Late in the afternoon we got under way and changed our anchorage to a better one just above the docks at the Point, off North Cove. In the event of a strong southeasterly wind the lower anchorage off South Cove is liable to be pretty rough and disagreeable, so we decided to move up the river and be sure of a quiet night. There were two yachts anchored near us, and several tows passed us going down the river. The evening was a quiet one, with nothing to disturb us but the rattling of the railroad trains across the bridge, about half a mile farther up the river.

The next morning we pulled up the mud hook and got under way about eleven o'clock. In passing under the railroad bridge we were not sure at first whether the mast would go clear or not, but found there was plenty of room to spare. This bridge is a huge double-tracked structure with the heaviest lift draw in existence. The length of the span is 160 feet, and the complete weight, including counterbalances and supports, is 2,100 tons.

After passing the power house and Lyme Ferry, near the bridge, we went by the site of the new trolley bridge, where a fleet of barges and pile-drivers was at work. We kept to the eastward of Calve's Island, but there is an equally good channel on the other side. Passing the red beacon on the north point of Calve's Island and the black beacon off Hayden's Point, we arrived at Essex, and stopped at the dock to fill our water jug. Essex is the place where shipbuilding was carried on in years gone by, and where the British destroyed many American vessels in the war of 1812.

Continuing on up the river, we passed the tug Sachem, with three barges in tow, in the narrow channel to the eastward of Brockway's Island. There is a 7-foot channel on the other side of this island, but most boats use the regular ship channel on the right. The village of Hamburg lies up a creek to the eastward of the island, and a handsome rocky bluff rises just north of the mouth of the creek. We passed to the west of Eustasia Island and went by the town of Deep River, where there is a deep channel along the east bank of the river. It was just one-fifteen when we passed the Hadlyme Ferry and began to notice the beautiful rocks and wooded bluffs on the right.

In succession we left behind us Lord's Island and Eddy Rock, and before we came to the Riverside Inn, Ferry and Goodspeed's Landing at East Haddam, we had passed several launches and another tug bound down the river. Leaving the gasolene stations and Champion House behind, we passed the mouth of the Salmon River, and then followed the channel along the west bank past Warner's Quarry Dock. Haddam Island should be left to port. The river is an ideal place for motor boats and is much used by them, and off Rock Landing we passed the raised-deck cruiser Halcyon, of Middletown. We saw the scattered houses of Higganum on the left, and kept along the west bank to avoid Sears' Shoal. Just above Middle Haddam, on the right bank, a high bluff stands out, with a rustic stairway winding up through the woods to the top.

After passing Paper Rock Light on the right and the Columbia Granite Works on the left, you approach the highlands, and the scenery becomes particularly beautiful. Then comes "The Straits," with their picturesque banks and rugged heights, as Middletown is approached. After passing Bodkin Rock a long shoal runs out from the right bank and the channel follows close to the left, or southwest, bank of the river as you near Middletown. There are two beacons here, and as we went up a dredge was working in the channel. We did not stop at Middletown, but continued on our way and passed under the two bridges that span the river at this point.

The channel lies to the right of Gildersleve Island, and there is no water at all in the wide part of the river to the left. There

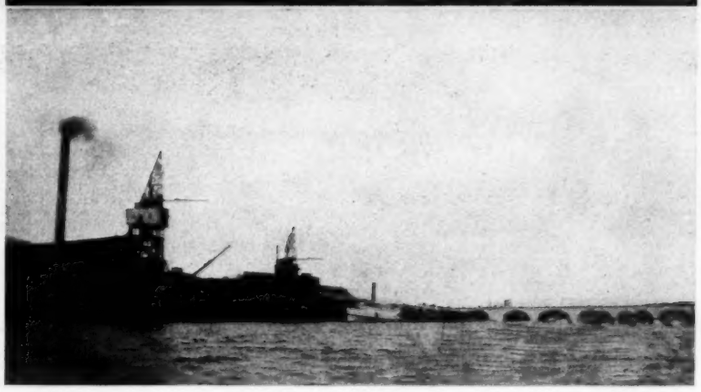
AT ANCHOR OFF NEW HAVEN.

WHERE WE STOPPED FOR GASOLENE.

are some pretty willow trees on the island, and, farther along on the right, a picturesque old stone bridge over a small brook. Here we met a number of small launches, several of which saluted us. After passing high wires strung across the river, the channel follows the left bank near some high bluffs. We anchored for the night off Rocky Hill at 5:37 p. m. After taking down the flags and putting up the riding light, we rowed ashore and walked up to the village, returning to the launch in time to cook supper.

The next morning we weighed anchor and left Rocky Hill at 8:45. There is a narrow channel and bad shoals near Roaring Brook, and we ran at half speed past this spot, passing a launch near Two Piers Range. From here we passed through pretty stretches of winding river, and saw the dock at Nauluc, or Glastonbury, opposite Crow Point, and, a little farther along, the village of Wethersfield. As you approach Hartford the channel grows narrower and there are two sets of range beacons—Clay Bank and Colt Pier Ranges. We anchored off the city of Hartford at 10:35 a. m. Later, we changed our anchorage to a mooring kindly loaned us by the Hartford Yacht Club, as we had anchored in the fairway, where we would have been in the way of barges going in to the Hartford & New York Transportation Company's dock at Dutch Point. The trip up the river had been a delightful one and the engine ran as steadily as a clock, never missing an explosion on the 60-mile run from Saybrook.

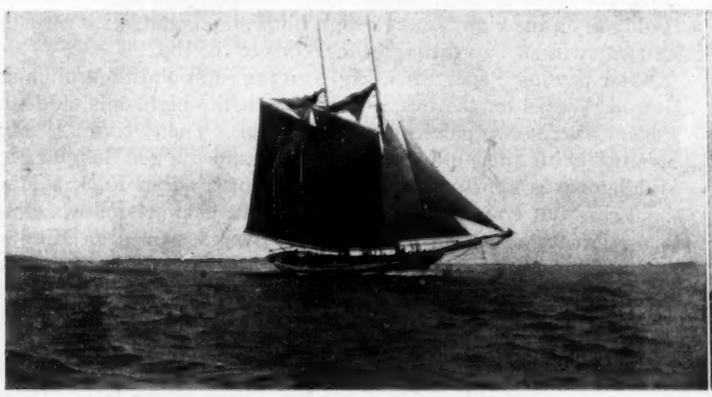
EAST BREAKWATER LIGHT, NEW HAVEN.



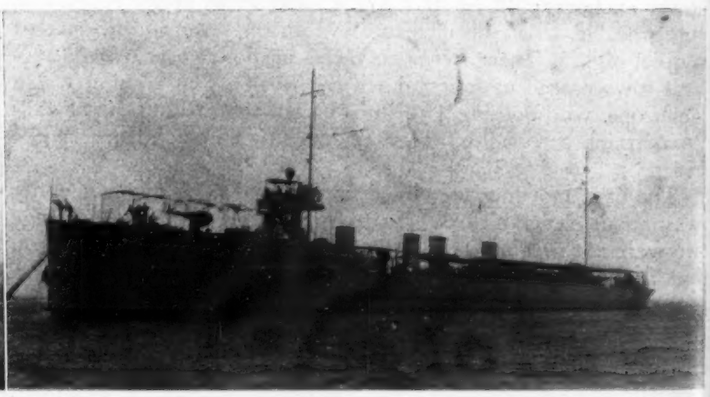
WATERFRONT OF HARTFORD.

It rained hard in the afternoon, so we stayed aboard and put in the time reading and writing letters. The next morning we went ashore and visited some of the principal points of interest of the city. Hartford has a population of 80,000, and is an attractive and up-to-date city. It is also quite a motor boat center, and there was a large fleet of launches anchored off the station of the Hartford Yacht Club, several blocks below the new stone bridge leading to East Hartford.

About three o'clock in the afternoon we got under way and started down the river, after putting ice and supplies on board. The river is navigable up to Springfield, but the channel is not charted above Hartford, and it would not be advisable for anyone unfamiliar with the river to attempt to go above Hartford unless he had a good pilot on board. There are several locks between Hartford and Springfield, and, from all reports, the channel is a bad



A SCHOONER WE PASSED NEAR SAYBROOK.



UNITED STATES TORPEDO BOAT DESTROYER LAMSON.

one. A friend of mine from Hartford made the trip down the river with us. We had a pleasant and uneventful run to Middletown, where we anchored for the night off the Middletown Yacht Club. It was Sunday afternoon, and we passed over twenty-five launches on the river between Hartford and Middletown. We spent the following day anchored off Middletown, which was one of the earliest settled towns in Connecticut, its old Indian name being Mattabessett. It has some beautiful old trees, and within its boundaries are located Wesleyan University and the Berkeley Divinity School. Late Monday afternoon we weighed anchor and ran down to Middle Haddam, where we anchored for the night.

On Tuesday we left Middle Haddam at 7:35 a. m., and stopped at East Haddam for ice and breakfast at the Riverside Inn. After this repast we continued on down the river and anchored off Essex at one o'clock. There was a thick fog in the afternoon, and in the evening a thunder storm came up, followed by a strong northerly wind. Essex is an attractive village, and is a good place to lay in supplies, as there are good stores only a short distance from the wharf, while most of the towns along the river are a mile or more back from the water.

After stopping at Saybrook Point for mail, we reached the mouth of the river early in the morning of a cool and cloudy day. We had been rather frightened at the stories we had heard of stone piers, snags, sunken dykes and other obstructions which we were likely to meet with in the river, but we had been up and down the stream without the slightest difficulty. To others who may be thinking of going up the Connecticut River I would say this: Get the latest Government charts, follow them closely, and you will have no trouble. Be careful, in anchoring, to get out of the way of the big steamers that run up the river at night. There are frequent places where gasolene may be obtained, and the trip is sure to prove a very pleasant one.

When we left Saybrook Breakwater we headed westward in Long Island Sound, passed inside of Falkner's Island Light, and had a good run to New Haven. We passed a United States torpedo-boat destroyer and numerous schooners on the trip. Off Branford Reef beacon a northwesterly gale sprang up and made a nasty sea, which we had to buck. We blew out the porcelain insulation on the front igniter when just inside the New Haven breakwater, and ran up to the city on one cylinder only.

The Chequit II spent two days anchored off New Haven and then ran across the Sound to Port Jefferson. After spending a night there, we returned to Shelter Island, and thus brought to an end one of the most enjoyable cruises that I have ever made.

The Month in Yachting

APROPOS of the Westward's victories on the other side, I have received the following letter from a yachtsman who knows more about boats and sailing than most men. It follows, in part:

"These English and German yachtsmen do not know the a, b, c of sailing schooners. I saw a large photograph of the Germania; the rig was childish. No speed in such a rig. The trouble there is the same as here: few designers know much about boats. They are *naval architects,* and the knowledge of their art, or science, does not include any knowledge of a boat."

Well, in America at least we have turned out some pretty good schooners. Not mentioning Westward, there is J. Rogers Maxwell's Herreshoff flyer Queen, and Cary Smith's creation Elmina, which craft, by the way, is, I have heard whispered, to have a centerboard next season. If this comes to pass we shall see, small doubt, some great going to windward. The idea, of course, is to take weight out of her and still have her hold to windward. It sounds pretty good to me, although that, of course, is a question for naval architects to discuss.

The Iselin schooner, to be launched this spring, will not have auxiliary power, as was reported. The only engines aboard will be for the purpose of turning the windlass, hoisting sails and running the electric lights. Looks as if she might possibly develop into something of a racer. At least—but never mind; we shall see what we shall see next year.

The three *sonder* boats selected at the trial races on Buzzard's Bay last month to meet the German *sonderklasse* flyers at Kiel next year were chosen mainly for heavy weather ability, our yachtsmen having taken to heart the lessons of Kiel two years ago. The boats are Cima, Bibelot and Beaver. Cima was designed by C. W. Mower, and is a handsome boat. She had a lot of hull weight, with high displacement as a consequence. Some 300 pounds have been removed, which may not improve her balance, but will bring her nearer to the minimum limit of the class. Bibelot is a scow, long and hard bilged, and her ballast, in relation to stability, is remarkably light. So is her displacement, and her lines are very sweet with the long, shallow hull. Beaver is, perhaps, the best all-around performer of the three, and is at home in all weathers. Her hull is light, with, however, a strong midsection and bilges carried well to the ends. She has a novelty in *sonder* boat mainsails, a bat-winged stretch of canvas, which, in the opinion of experts, though, does not, or rather has not, figured importantly as other elements in her success. She was designed by Burgess, of Boston. Bibelot is from the boards of Herreshoff. Americans are confident that this trio will show the way to the Teutonic racers in German waters next year. Here's hoping!

Farewell to Dixie III! Her 250-horsepower engine has been taken out and her owner, F. K. Burnham, is going to substitute less power and use her as a runabout. She had a glorious day, certainly. Her one defeat was at Monaco, a defeat which will be lost to posterity through her successful defense upon two occasions of the British International Trophy. I recall very clearly the day of the first race for the trophy on Huntington Bay two years ago. The trial races had been poorly attended and there was little hope that the cup would not be taken to England by either Wolseley-Siddeley or Daimler II. But that day a man "in the know" walked up to a few of those who were most interested in the success of the new boat and whispered, "Bet on Dixie. She has been doing 30 knots an hour backward. She can't lose." So it proved. While the breakdown of the British challenger this year was all that saved Dixie's laurels, yet it must be remembered that a boat depends upon her engine, and that an engine has no more business to break down in a race than a hull has to fall apart, etc., etc. "These Americans! Why, they are so bent on winning that they claim the race when our engine gives out!" Aren't we rotters!

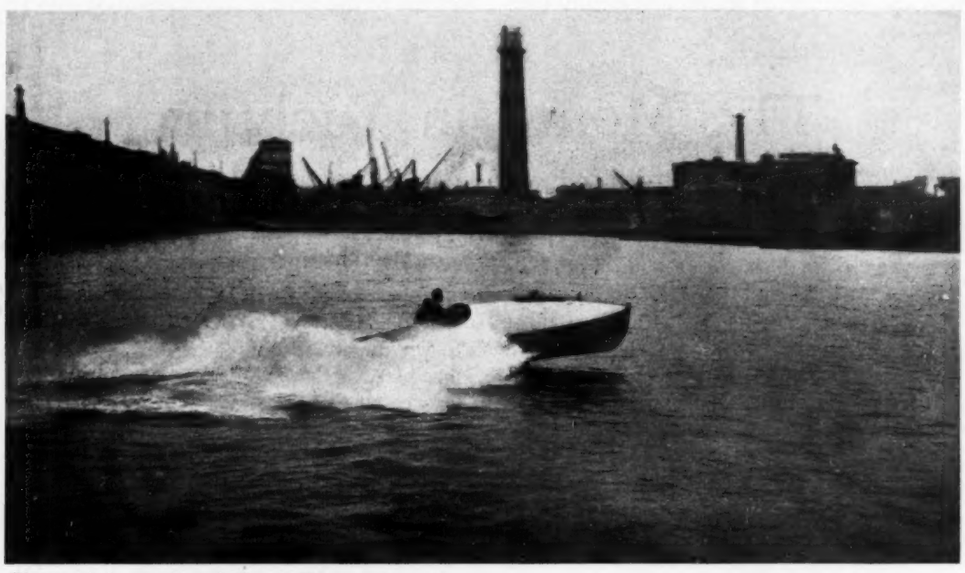
The retirement of Dixie does not mean, however, that Vice-Commodore Burnham, her owner, is to retire from the racing game. It is said that he is having a new boat built, of a hydroplane type, and will install in it the old 250-horsepower Crane & Whitman engine that has done so well in Dixie, and another engine similar to it which he is having built. These two motors in a boat of the hydroplane type should produce a remarkably fast craft.

Again the rumor that Morton F. Plant is to build a racing schooner, a 90-footer. I hope so. It would be fine billiards for the sport in general. I saw Commodore Plant at the stick of

Shimna last season just before that crack sloop went out of commission. He had a couple of Englishmen aboard, and was putting the sloop through her paces with skill. A good sailorman, he. Wish we had a lot more of 'em.

Daniel Bacon has purchased that cup snatcher Avenger, making the fourth owner she has had in her short career. Robert Emmons had her built by Herreshoff to retrieve his misfortune while owner of Humma, which was measured, or rather re-measured, out of an Astor Cup. Then Alexander S. Cochran, of the Westward, bought her and placed Charles Barr in command. After that she flew the burgee of Harry Maxwell, and now Mr. Bacon owns her. I wonder if Harry Maxwell is going to race Queen next year, or whether he is through with racing for a while? He seemed quite disgruntled over measurement rules last season. William Gardner is building a sloop in the Avenger class, so we may look for some fun next year. Leo Herzig is going to sell Gardenia and build in Class P to race against Cara Mia and Windward.

When a strong sou'wester blows into Milwaukee Bay only the brave among yachtsmen are willing to put out through the storm gap in the breakwater and go to sea. Such conditions attended the Columbia Yacht Club's race from the Cream City to Chicago for the Stratford Hotel Cup. Three boats started from Milwaukee — the schooner Mistral and the Illinois and Lariken. But the weather was too strenuous for the smaller, light-weather boats, which made in for Racine at all speed, leaving the Mistral to plug along by herself. This 65-footer made herself quite at home in the blow, and she boomed into Chicago in good time. This victory gives her owner, James O. Heyworth, the first leg on the cup, which must be won three times before final possession.



Photograph by courtesy of Messrs. Thornycroft.

MIRANDA IV, ONE OF SIR JOHN THORNYCROFT'S HYDROPLANES OF THIS YEAR, DOING 40 MILES PER HOUR.

Sailors prone to superstitious fancies will find fresh food for their beliefs in the figure which an unlucky number—13—has played with C. Ledyard Blair's steam yacht Diana, which struck a reef in Hell Gate last month and was impaled for some hours while Commodore Blair and some thirty guests were returning from a yacht race. Commodore—Vice-Commodore—Blair has thirteen letters in his name, as he signs it. He purchased Diana from Percy Chubb on September 13, 1906; on February 13 of that year she was gutted by fire, and this year thirteen yachts had participated in the race which Commodore Blair and his guests had viewed, returning from which the boat ran aground. Quite a combination of circumstances.

Merely by way of showing what speed the swiftest boats of the future must make in order to be considered fast, be it announced that the best British record is held by the power boat Ursula, which once made a mile in 1 minute and 25 seconds, a speed of nearly 43 miles an hour. One of the most wonderful boats which they have built on the other side this year is Miranda IV, a hydroplane, with which Sir John Thornycroft recently startled the power boat world, at the same time upsetting all established theories. It is claimed that this little boat has done 35 knots, or something over 40 miles, an hour. It is experiments with such boats as this that will make England a more dangerous competitor than ever in our future international races.

Everyone had a fine time at the Atlantic Yacht Club's Race Week, which ended on Labor Day last. For the first time the light-draft centerboard craft of the Long Island south shore raced for prizes on the lower bay. The Islip one-designs raced against and defeated the Larchmont one-design keel class of the same rating. The Islip craft did not do a thing to their deep-draft rivals, which settled, for this season at least, a moot point between Sound and south shore yachtsmen. It was good to see some racing off the Sandy Hook Lightship once more. The three 65-footers, Aurora, Istalena and Winsome, competed for prizes out there on two days. Aurora won the second race and Istalena the first. All in all, the races were the best ever seen on the lower bay in New York. There were sixty-three starters on the first day, fifty on the second and fifty-eight on the third. The Atlantic Yacht Club has been doing a splendid work right through the years, saying little, but always standing for honest methods and good sportsmanship. Now the club is reaping its reward. Moreover, everyone who went down to Sea Gate had the time of his life.

News comes of a new off-shore schooner that has been contracted for for Ex-Commodore Robert E. Tod, formerly owner of the Thistle, which took part in the ocean race of 1905 for the German Emperor's Cup. The new boat is to be one of the largest auxiliaries ever built in this country, being 195 feet in length and rigged as a three-masted schooner. Speed under sail will undoubtedly be a prime consideration, and it is believed that she will be seen in the trans-Atlantic race of 1911, if indeed the prospects of this race did not hasten her construction.

Eastern yachtsmen will be interested to know that Cord Meyer's famous 45-foot sloop Altair has recently been sold to Edward Manahan, of Boston, Mass. Altair is known as one of the fastest racing boats in the country. She was not in commission this year, her last appearance being in 1909, when she came out after a season or so of rest. She will probably be raced in Eastern waters next season, and it is said that she will be sailed by Hollis Burgess. This will mean good sport in Massachusetts waters next season, and it is to be hoped that she will be sent around the Cape to take part in some of the events on Long Island Sound.

Altair was built by the Herreshoffs in 1900, and is 45 feet long on the water line, 74 feet over all, 14 feet 3 inches wide and draws 10 feet 4 inches. It is good to see fast boats of a decade ago passing into the hands of those who will keep them in commission and race them.

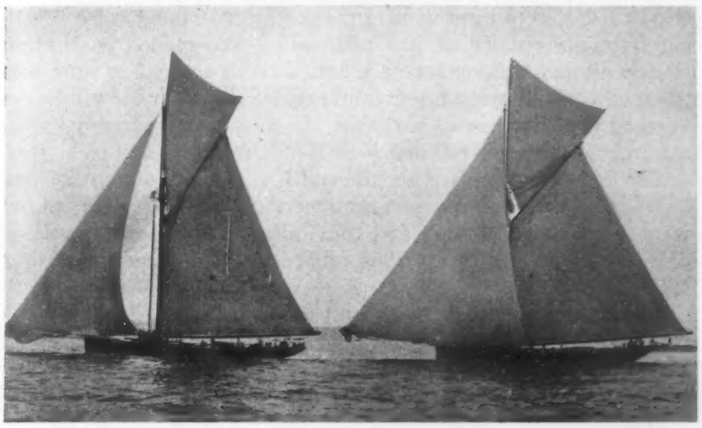
Priscilla—A Famous Craft

BUILT FOR THE DEFENSE OF THE AMERICA'S CUP, BUT BEATEN OUT BY PURITAN, SHE WAS THE MOST TALKED-OF VESSEL OF HER DAY. SOME INSIDE FACTS OF HER RACING CAREER NEVER BEFORE PUBLISHED

By A. CARY SMITH

THE Priscilla was built in 1885 at the yard of Harlan & Hollingsworth, Wilmington, Del. The cutter Genesta was coming over that year to sail for the America's Cup, and, as we had nothing but the Mischief, Fannie and Gracie to sail against her, it was decided to build a new vessel to meet the challenger.

A dinner had been given by the late Mr. Busk, owner of Mischief, and the matter was brought up afterwards before an open fire made of a piece of the jib-topsail pole of the Mischief—a



PRISCILLA (AT LEFT) AND ATLANTIC. THESE BOATS MET OFTEN IN 1886.

sacred rite only performed when the faithful were present. The pole had been used when the Mischief defeated the Canadian challenger Atalanta, and when the pieces were burned the faithful sat together, and, as the smoke ascended and the heat radiated, fond memories arose of the day when all hands had helped reef the mainsail just before reaching the outer mark. The mainsail was stretched up again just at the mark, was jibed over, and all hands lay down to windward, while Than' Clock, the great Ixion of that day, with his blue eyes aflame and his jaws going like a damsel chewing gum—he did not chew gum—tooled her along. A few minutes later all anxiety was over; the Mischief pointed high, went through the water like a dolphin, and left the challenger in a hopeless manner.

It was a beastly cold day, and Commodore "Nick" Kane took off his ulster and put it on Than' Clock. Hank Haff was there; so was "Lean" Jeffries and other men, good and true. Nearly all have joined the great majority. Peace be to their ashes! Like the knights of old, "Their bones are dust, their swords are rust; their souls are with the Saints, we trust."

While the smoke of the jib-topsail pole ascended the project was set forth, and the plans and model for the Priscilla were the result. Commodore James Gordon Bennett and Commodore W. P. Douglas were the financial backers, and a contract was made with the Harlan & Hollingsworth Company.

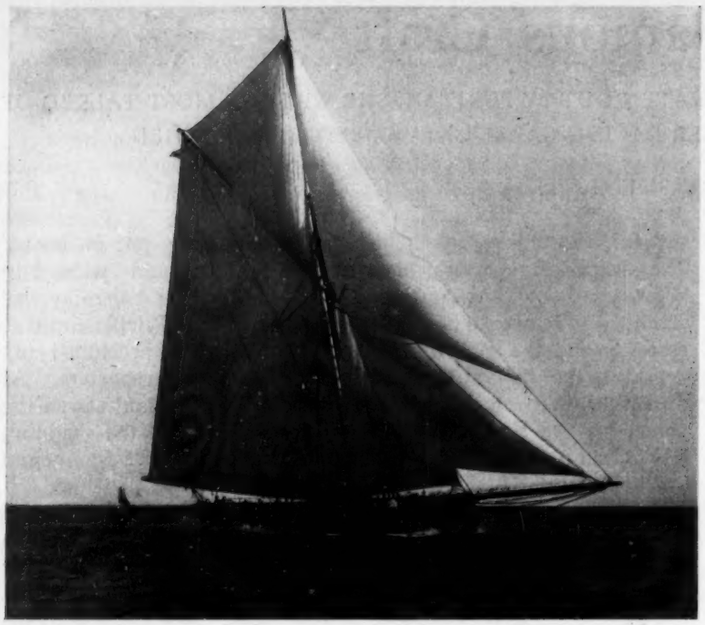
The vessel was to be done in sixty days; a large gang was put to work and she was actually completed within two or three days of that time. The hull was at once towed to the yard of C. & R. Poillon, foot of Bridge Street, Brooklyn.

In a very short time the joiner work was put in, the mast stepped, rigging set up, ballast put in, and sails put on board. The swarm of reporters that thronged the dock and "wanted to know, you know," was a prominent feature. At last the day was arranged to leave. The knowledge of the hour of departure was esoteric, and the mob of men on board at work precluded any departure that day, at least in the estimation of the reporters. At 6 o'clock, when all had left the yard, a tug came and towed the vessel up the Sound to a quiet place "far from the madding crowd," and early next morning the bending of sails was begun and kept up all day.

A report was published next day in an enterprising paper of saffron hue about the trial trip, which, by the way, had not been taken. Dear reader, you know what Hungry Joe said? Is not his expressive countenance set forth in a book written by Thomas Byrnes, the great policeman of bygone days? Well, Joe with the appetite remarked that "there was a sucker born every hour." Who shall gainsay the word of such a renowned specialist? This was the belief of the proprietor of the above-named paper. The paper was much purchased and perused with great eagerness. By way of showing the interest in the matter exhibited by the people, did not the writer hear an elderly and sedate-looking matron say to a companion on the bow of a ferryboat as they passed a scow, "Is not that one of the yachts?"

The following day we got sails up, then the anchor, and sailed away. She sailed along smoothly, and then we hauled aft the mainsheet and tried her on the wind. In the innermost compartment of the solar plexus of the designer there was a delicately adjusted something that told him she was not going the way she should. Nobody else noticed it, and he kept it to himself as a sacred secret. It was a great day, the rest thought, and the way she went along was a revelation. We tried her with the Mischief, and when the wind breezed up we went away from her in a way

PRISCILLA AS SHE APPEARED IN THE TRIAL RACES OF 1885.



THE FAMOUS CUTTER BEDOUIN, ANOTHER OF PRISCILLA'S CONTENDERS.

to astonish the beholder. But the inward monitor, b'gosh! Perhaps it was a conscience. The designer beat upon his breast like an upright "polytician," and tried to silence the darn thing. When he went home he told 'em all about it—except what the monitor said. You have all read about the Frankenstein, of course; if not, it is too long a yarn to tell here.

In the dead of night the writer would wake up and hear the whatever-it-was saying to himself: "I knowed it! I told ye!" Nobody except a designer fitted up inside somewhere with such a thing can form any idea of the misery. Fortunately, the Creator has fitted up few in this way. It was a nuisance; but, to be frank, he or she has given many a hint as to what should be done. Many a time, years gone by, when the writer was sailing his Comet and leading the first flight, he has had hints from his inside passenger that she was not going the way she should.

So, you see, all these wireless hints must be used with judgment. Like the ancient Persians, when they had State questions to decide they discussed them when well drunken and revised them later on when sober. Also, did we not have great trouble with the Mischief to make her go to windward? Did we not have to trim her down very flat and then give her the gaff and drive it out of her? And one day—what a day that was!—when we met the Pocahontas and Gracie off the point of the Hook, with an ebb tide and nasty sea, topmasts housed, the water near the top of the house, and Than' Clock, with his jaws going, putting it to her to beat the band, did we not leave the Gracie to leeward with the greatest ease and walk by to windward of the Pokey, with her long dock log of a bowsprit plunging under and coming up after a dive, the water pouring off the gear forward? We had a most beautiful view of it as we waded past her. Suddenly her peak was slacked and she was kep' off—"no place for a gentleman's son." We heard afterwards that the chain plates began to give. As a dear old friend used to say, "It was a great day for the McGuires!"

To show what trouble developed with the sails at that time, the canvas of the Priscilla when first bent was like a piece of metal, but, under the enervating effect of the sun and warm weather, became like flannel, and, when furled, looked as soft. The mast was of white pine—the usual material at that time—but when there was a little sea on, the soft pine took so many complex forms when carrying sail that to go aloft and watch these changes of form was a liberal education in gear. Many times the designer, like the clergyman who reproved the plowman for profanity, and, when taunted to take hold and try himself, struck a stone and was slung out of the furrow, said, "Well, I never!" The mate and designer had many seances upon that mast head.

The wind was light and we tried the Mischief. We went away from her with ease, and then when the wind came fresh we judged we beat her a mile in 40 minutes. Then we hauled on the wind and beat the Mischief easily, though the inner monitor told the writer "not enough." But, then, new boats all have their tricks, and Mischief was in Than' Clock's hands, who knew every inch of her. Besides, boats have so many tricks! For instance, Mischief and Regina one day, beating down to Cape May in smooth sea and light wind, Regina held on better and came out in same spot, tack after tack. On Mischief we had a working topsail—set the club. We at once opened a gap and left Regina miles astern. We merely put on the extra sail beyond the gaff and above the topmast, but it did the trick.

The next day we made sail on Priscilla and tried Mischief to windward. Very light wind, and we started under her lee. Mischief set jib-topsail; we had plain sail. We gained on her; set jib-topsail and balloon foresail, and worked across her bow with great ease. The wind breezed up and we made for New London. We had wind free; in a short time Mischief was from 3 to 4 miles astern, and when we reached New London she was not to be seen.

The following day we got off and had a tussle with the Grayling—at that time a very fast schooner. With the wind light, we went away from her very fast to windward, and then turned and did the same thing free. This caused the inner monitor to keep still.

Then we wended our way westward and allowed Mischief to start 23 minutes ahead. In 2 hours and 15 minutes we were abeam. The wind came fresh and we were some time passing her sphere of influence, but finally spun out a long lead. We left at 9 a. m. and at 4 p. m. could just see a speck on the horizon—it was the Mischief.

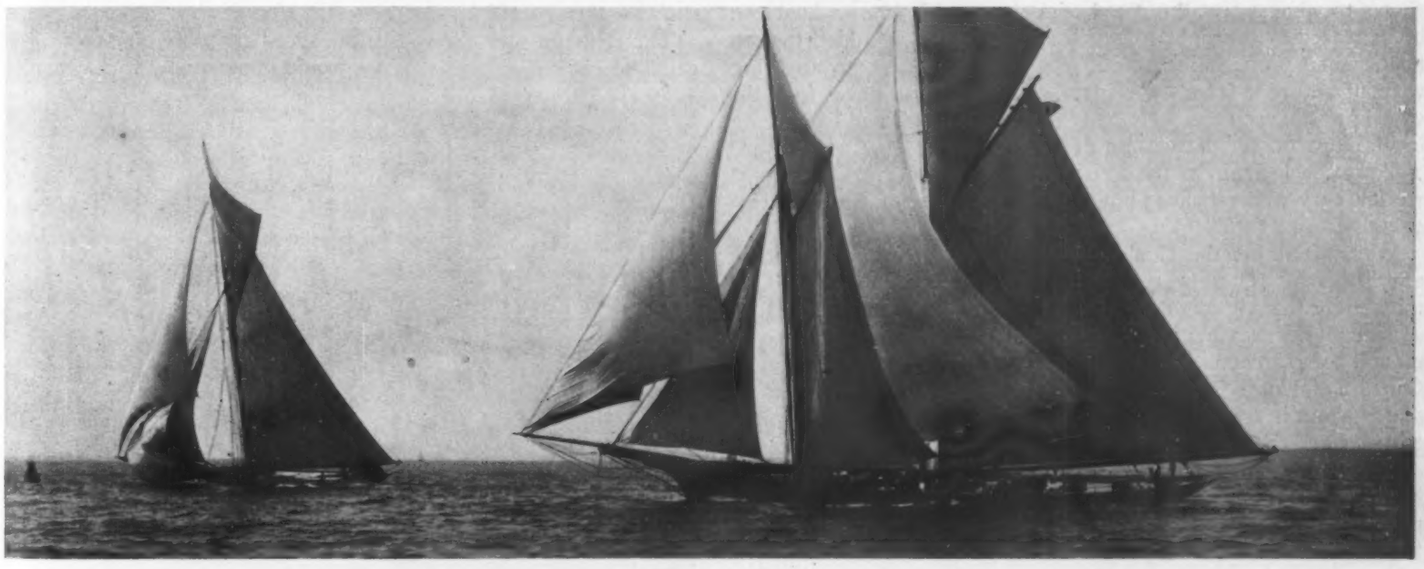
A few words may not be out of place in explanation of the sphere of influence. The writer has often noticed the attraction that one boat has for another in a wide sheet of water. In going up or down the beach, I have often seen a coaster miles ahead. We would come up very fast, get to windward of her and stay

THE SCHOONER GRAYLING, WHICH GAVE PRISCILLA MANY A HARD BATTLE.

there for perhaps 30 minutes, then slowly forge past her, and, once out of the attraction, in a few minutes would be a long way ahead. A thoughtful and observant skipper never goes near a boat when he wants to pass her, but keeps off well to leeward, or luffs well out long before he gets near. The tricks of racing exercise all the qualities that the most gifted mind is fitted out with. There is a widespread fallacy that any man can sail a boat and get speed out of her. Wall Street waxes fat on the same illusion as applied to that interesting neighborhood.

After some minor repairs had been made we put the Priscilla on the dock and experienced the drawback of being in the limelight. All kinds of people pushed their way through the crowd and proffered advice by the ton. It is a marvel how many people can advise about a boat from their point of view. It reminded the humble scribe of a bar room when the war broke out: "If I had hun'd thous' men, fifty thous' men, b'God! would go to Richmond. Hund' thous' men," etc., *ad nauseum*. The only thing missing was the "Come, boys, what'll ye take?"

After a day of this, how pleasant it was to go home and walk about alone under the stars and forget it all! It was like pounding through the sea at night and then making a harbor and anchoring where you could see and hear the lapp! lapp! lapp! of the water, and "Katy-did—Katy-didn't," and the hum of crickets, while the harbor lights cast a snaky reflection on the water. What a kind Creator it was that made these harbors, eh!



THE OLD SLOOP MISCHIEF AND SCHOONER FORTUNA. THESE BOATS WERE RACED AGAINST PRISCILLA IN HER EARLY TRYOUTS.

At last we started from Glen Cove on the cruise with the fleet, with the wind ahead. The scribe recalls that just before sunset that day the air was wonderfully clear, and the topsails of the Mischief could be seen just clear of the horizon. We left the Bedouin far astern three separate times, then would lose the wind and she would come up in the most provoking manner. The next day we saw the redoubtable Puritan. She was rigged in a much better manner than our boat. The mast was Oregon pine and the jib was set flying. Of bulwarks there was a mere suspicion, while ours were steel and 18 inches high. A great many things about her were better than ours, while the crew aft had apparently been selected from a football gang. No names will be mentioned, but each one looked "very fit" in his jersey, and one of them had the name of being the strongest man about Boston, while Gen. Paine, with his blue shirt and red suspenders, his keen look, his soldier voice and manner, looked the ideal man to lead, seconded by "Mack" Forbes, with his big shoulders and a voice that sounded like a bass drum. The Puritan's crew put that of the Priscilla in the shade.

The next day we got off and, with a leading wind, went away from the Puritan very fast. We then, contrary to all rules, went back and let her pass us, and then followed her again. The time we lost going back put us astern in elapsed time, but we had to put up with this for our fair play.

A word about Gen. C. J. Paine. He was possessed of that rare talent and ability to make a boat sail.

There was a schooner built at Port Jefferson—of course, this was many years ago before the Renaissance of yacht designing—when Spanish navigation was in vogue. For the information of the laity, Spanish navigation is a synonym for main strength and stupidity. This boat was called Halcyon and performed up to the general standard of boats of that day. The late Pierre Lorillard once owned her and the late "Bob" Fish had her in charge. "Bob" was noted for zeal in experiments, and some of them produced remarkable results—one of which was the redoubtable Sappho of glorious memory, called a "none such" in the archaic of the fo'castle.

Halcyon had a peculiarity, so "Bob" informed the writer. She would heel to a certain angle and "pay off" in an alarming manner, and the helm would "get loose." In other words, there was no pressure on the rudder, and the helm could be put up or down and the boat remain in blissful ignorance of it. On one occasion Halcyon "took a knockdown" and remained longer than the legal count. As the vessels of that day had no outside ballast and were liable to capsize when heeled beyond a certain angle, such behavior tried the nerve of the captain. But "Bob" had no nerve—too busy—no time. First the head sheets were let go. As they were well under water, it was a natatory feat to get down where they were belayed. Well, the head sail flopped and banged about—no luff up. Then the main peak was let go and the head sheets trimmed to windward. This desperate expedient at last payed her head off, and the main sheet was slacked a bit as she came off. At last she gathered way and came up to a reasonably even keel, and when the mainsail was taken in the vessel was under control.

There are other vessels that have a pronounced desire to act this way, but let us draw the veil of secrecy, though the writer can tell about his own boats. When running with a spinnaker set the Valkyrie has a tendency to "run off her helm," but a quick

shift of it would stop her. All of the Harvey cutters would "run off" at times. But that breed has vanished; the last of them has been purchased for the lead in the keel. We learned a lesson from those boats that was worth the money the other fellows spent on them.

To return to our mutton. Gen. Paine bought the Halcyon and began to experiment. The first thing he did was to set up a long pendulum on the centerboard trunk, which in those days extended from the keel to the top of the house. This pendulum had a vernier plate fine enough to read to one-hundredth of an inch. This method gave an exact index to the trim of the boat. After a number of readings and the sailing corresponding to the reading noted, a trim was found and the darn thing began to sail. A trial was had with a noted schooner, and it was found that on the defined trim she carried too much weather helm. A longer flying jibboom was fitted and larger flying jib made, and the next trial demonstrated her superiority to the other boat.

After a number of trials it was noised about that the Halcyon was a fast boat, and the noise was so loud that when the New York fleet went to Boston waters the noted schooner Montauk did not enter in a race given by the Eastern Club. This incident shows to what extent the speed of a slow and unknown boat can be increased by the right sort of brains. It may be added that on boats where Gen. Paine was in charge no man let go anything without an order from the General. The General never took the wheel himself, you see. He had "fit into the war" and had a long head, like a horse "dat was on de level. See?"

To go back again to the Priscilla. When we got to Newport we felt very well satisfied; but, as the sacred writer put it, "Pride goeth before a fall."

We started for the Goelet Cup—Priscilla, Puritan, Montauk and Fortuna. There were others, but as we went on the pace got too hot for them. After the start we passed the Puritan and took a place on her weather bow, but not for long. The wind breezed up and she marched away from us in the most disgusting manner. Our jib, set on a stay, would not stand, and the sails went to pieces—that is, lost their shape—though the canvas had been made to order and the greatest pains taken with it.

The wind and sea increased, and as the writer looked astern he saw the Bedouin, with her jib wet one-third of the way up, playing Hobby Horse. That day all the cutters—the boasted sea-boats—came to grief and turned tail. A common, garden variety of boat, with that much-derided fitting called a centerboard, went around the Sow and Pigs Lightship with a whole mainsail.

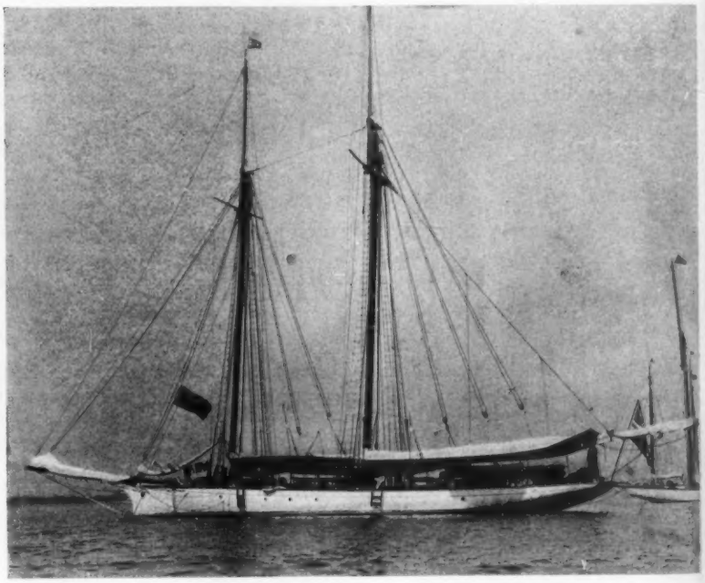
The Priscilla touched her bowsprit twice. This exposition of the "better model" finished that variety of boat for all those that saw the performance. The Puritan beat the Priscilla, to quote a late noted English designer, "like old boots." We held to windward along the shore, and in an evil hour it was decided to keep off for the lightship that showed well to leeward. When we had stood across for some time we found we had made a fatal error—the tide was on the weather bow, and anyone who has been there need not be told any more. We had to haul aft the main sheet in a confused sea that is rarely met. One puff put us down to the skylight and covered the racing boat we had lashed down on deck clear out of sight. When we kept off at the lightship the channels made the water fly higher than a man's head and nearly drowned the man who went to the rigging to get a backstay clear. The rest of the race was a procession. But there was balm in Gilead. Fortuna defeated Montauk, that was supposed to be unbeatable. But it was not the Montauk's fault. The men in charge had taken off the jib and forestaysail rig and put on a single jib, and this sail pinned her down in the sea so badly that Fortuna, with her brass quarter rail in the water, bested her.

When we finished we took in our mainsail to go in without trouble, and saw the Fortuna come to the lightship with all sail set. The light sails were taken in, the helm put down, and round she spun like a top and kept off for the harbor. The Ruth, a long way astern, saw the Fortuna tack, and as we got off the Whitewashed Rocks we saw her put her helm down. Up she came in the wind and fell off again. The peak was slacked and they had a parrot-and-monkey time of it.

On our return from Newport a meeting was held and the conclusion reached that Priscilla could not carry her sail as long as Puritan. The writer agreed with the committee. But what a set of fools we all were! If we had put more weight in the boat she would have carried all the sail we could put on her. The writer has learned since then. Pshaw! he knew it before, years before, but being an artist for years had sapped his manhood. If he had told the committee "*Facilis descensus Averno.*" But let that pass.

We cut some feet off the mast, not remembering that the Goelet race was sailed on such a day as had not been known at Newport for five years. We met the Puritan for the trial races. We won one and she one. Our win was more by luck than speed. But the writer got desperate. He went to Mr. Busk. "Lend me four tons of lead," he said. "Yes, Smithy." It was put in the Priscilla, and the moment we tried her the captain said, "Why, she's another boat!"

The Bedouin was allowed in the race—no more chance than a celluloid cat in Gehenna. What would happen now to a commit-



THE PRISCILLA AS SHE APPEARS TO-DAY. IN SPITE OF AN ALTERED RIG AND A NEW BOW THE FAMOUS VESSEL IS AS STANCH AS EVER.

tee that let such a boat in a trial race? Well, just as we came to the line Bedouin got in our way. We did not like to run her down, and so gave way, allowing the Puritan to go past us when kept off, and she planted herself on our bow. We stayed in this position clear to the lightship and turned just astern of her. We set a jib topsail, kept off under her lee, and had the wind clear of her and were footing through her lee, when there was a loud bang and the topmast hung down over the side. The club topsail lay over on the gaff, and, to save the topmast, we had to haul down the jib-topsail. The becket in the purchase of the topmast shroud had pulled out and the splice jammed in the upper block. We did not use turnbuckles at that time. The Puritan got home 45 seconds ahead, and the allowance made it worse. Such is the fortune of war! This tale has never been made public before, but the truth should be told.

The following winter Mr. A. Cass Canfield bought Priscilla, and the pine mast was taken out of her and an Oregon pine one

put in. The bulwarks were cut down one-half; the sternpost was raked and the forefoot cut away. The hatches were also cut down one-half the height. As they were 10 inches high at the lowest place, there was room to take some wood off.

When tried, she proved to be very fast, and Mr. Canfield sailed her himself, and did it well, considering that he had a great talent for mathematics. In a moderate wind the captain said she carried a lee wheel. In that day this was considered a sad mistake for a naval architect to make. The cover of the steerer was taken off and it was found that the post, being raked, the weight of the rudder when the boat heeled caused it to drop to leeward and steer the boat, while the captain had to hold the weight of the rudder up with the wheel, and persuaded himself that the wheel was down. The worthy man realized what Captain Hamlet, that classic square-head, meant when he said, "There are more things in heaven and earth than are dreamt of in thy philosophy, Horatio." So that disgrace was palliated at least.

The first day we met the Puritan we also met the Atlantic. Going down the bay we were astern—spinnaker set—and when we hauled up the subscriber suggested, in a mild tone, that the small jib-topsail should be set. The owner said that he had tried it and she would not bear it. In very unparliamentary language he was informed that she would stand it or we would be the last boat in the race. The order was then given and the sail was set and broken out. There was a sea on just outside the Hook and the Puritan and Atlantic were abreast of each other, diving into it to beat the band. At once Priscilla picked herself up, passed between the two boats, and went ahead and left the pair bowing to each other in the most polite manner. We turned ahead and kept our lead, winning the race.

In the next race we beat all but Mayflower, and managed to turn the lightship 11 minutes ahead of her. Then we had a squall and lost the wind, and Bedouin got near us and outlucked us every time. At last we got the wind, and, with all sail set, were leading when, with a loud bang, the bowsprit went up about 3 feet. Fortunately, it was a yellow pine stick, and we kept the sail on her and won the race. There had been a change made in the bobstay, and the pin of the inboard shackle had broken. This pin was 1½ inches in diameter, and went like a piece of punk. Here was a lesson in bobstays; and the reason of the break was that the pin had been put in across an eye of round section, putting the strain on a point.

The next race we made a strictly amateur start. The writer has many times wondered at the working of the conscious mind under stress. To explain: Almost without exception, when the preparatory whistle blows each yacht gets as far from the line as possible, and none but the most hardened gamblers have the nerve to stay near the line to take advantage of circumstances. This day we were so far away when the whistle blew that only the steam was seen—we did not hear a sound. The writer begged and implored the owner to get near, but was met with a stony gaze and silence. When we finally reached the line we were last and handicapped. It was a start before the wind. After we had been gone some time the wind shifted ahead and placed Puritan dead to windward of us. Not only that, but she took the wind first and went off like a bird. We nearly caught her at No. 10 Buoy, and then in a faint air she went away and got a lead of 1½ miles while we lay still. At last we took the wind, and at the lightship we were only .2 minutes astern; then we fanned along, and about half-way from the Hook to the Narrows she was just ahead of us, spinnaker set.

Suddenly the wind shifted east, struck her first, and we followed her over the line very near, but the handicap beat us. We made the fastest time, but the "amachoor" start cooked our goose.

After that the subscriber knew her no more. The yacht then went East and made a campaign like the one Napoleon made in Russia. When the owner of so large a vessel sails her himself, though he may acquire experience, he rarely gets anything else. It is rather humiliating, but the man who is born on the water, so to speak, is not burdened by theory, and when he shows out ahead of his mates it is a sure sign that he knows more than they do. The writer has been told by a fisherman that, out of a large fleet of fishing schooners, one or two beat all the rest. There is no royal road to boat sailing, and out of the multitude of men who follow it for a profession there are not more than two or three, at the most, who can really get the speed out of a boat.

After the campaign in the East the races for the America's Cup came off and Priscilla was a looker-on. She was bound to Wilmington after the races, and had all her impedimenta—boats, spars, stores, ice, water, coal, etc.—on board. The writer was not at the races, but one of the best judges of pace in the country was on board Mayflower—a man who could recall every tack in a race and keep the relative positions of the boats in his mind, the shifts of wind, where the tide favored one and impeded the other, up to the finish line. This man informed the writer that Priscilla, with a working topsail up, astonished the people on both boats, and when they hauled on the wind she was a trifle better than either of the others.

After this showing there was a well-defined rumor that Gen. Paine wanted to buy the beaten Priscilla; he knew that, in proper hands, she could beat the Mayflower. But, as a matter of course, great pressure was brought to bear on the General, and he was adjured by the honor of Boston and the Sacred Codfish to hold his hand. The result was the building of the famous Volunteer, a wonderful vessel, designed on the ideas of the General from his experience with the Mayflower.

The Volunteer looked like an old, battered, country preserving kettle; but, by the Great Golly Wozzle, how she could go to windward in the hands of that old Viking, Hank Haff! It may be well to repeat what has been written before; a good thing cannot be told too often.

When the Mayflower sailed the Galatea, in one race, after they had been gone 20 minutes no difference could be seen in speed. Capt. Joe Elsworth said the mainsail was too flat. The designer said a sail could not be too flat, and the General leaned toward his opinion, when bang! the outhaul of the mainsail parted and the clew band came in about 2 feet and jammed. At once the Mayflower took a start and walked away from the other boat. A purchase was put on the clew of the sail and it was hauled out just smooth. When done, the General made the remark, "That was a knockdown argument." This hint was not forgotten. The Volunteer had a very heavy mainsail with a deep roach, the slack of which wopped from side to side when she rolled in a calm.

Volunteer had more displacement than Mayflower and a very narrow stern, and when the wind was strong, the main sheet block and block, and Hank Haff at the wheel, she could lay nearer the wind and go faster than any boat in the country. And the General told the writer—with a smile that was childlike and bland—that he did not know anything about naval architecture! What a fortunate man!

The Priscilla was finally sold, the keel dropped and two masts put in her. She was never raced but once afterwards—at Newport. The wind was light, and a head tide at Sow and Pigs brought up a group of boats. When the wind freshened strong enough to stem the tide they turned the ship and headed for Newport. The Priscilla in a short time passed six schooners and showed up well; that was the only trial.

She is now owned on the Lakes, and the writer's firm installed a Craig motor in her and made other changes. One remarkable fact was noted—the feathering screw did not affect her speed; at least, the captain said he could not notice the difference in her handling or sailing. When the motor was installed the hull was inspected and found to be in good condition and liable to last many years yet.

The 4-Cycle Gasolene Engine

By HARRY T. WOOLSON

PART III.

ITS MAINTENANCE AND CARE FOR THE WINTER

THE gasolene engine, in common with all mechanical devices, requires some care and attention to obtain good results.

Cleanliness is too elementary to need more than passing mention. It is, however, the essence of success in the handling of machinery, and especially so in the case of gasolene engines installed in boats. He who gives his motor some attention in this respect will be amply rewarded by the results. The clean, freshly-painted motor always seems to run the better, and a surprisingly small amount of attention, given from day to day, will keep it in that condition. In the electrical department terminals should be kept free from corrosion, which so quickly forms in the vicinity of salt water.

Lubrication is, perhaps, the most important factor in engine maintenance. Faulty lubrication will ruin the best machine ever made. The majority of motors are well provided with the necessary means for properly applying the oil, and, if trouble results, it is seldom the fault of the design. Small motors usually have automatic oiling systems, requiring only the replenishing of oil at long intervals, when indications show that the supply has diminished. Large engines have mechanical lubricators to supply all important bearings, but require occasional hand oiling for the less important ones. During the first few days' running of a new engine it is advisable to set lubricators to feed the maximum number of drops. This will thoroughly wash any filings and dirt from the bearings which may have accumulated during the construction of the engine and which had not worked out on the test block. It will then be safe to cut down the amount of oil until the lubricators feed from 8 to 12 drops per minute for slow-speed cruising engines up to 25 horsepower and small, high-speed runabout engines. The larger speed and semi-speed types require as many as 20 to 30 drops per minute when wide open, depending on the size of motor. It is well to remember that oil economy is false if carried to the extreme so as to in any way endanger the life of the bearings. The cost of renewing a burned-out bearing will pay for a great many gallons of oil. After an engine is once clean the old oil can be left in and the loss made up with fresh, although it is a good plan to occasionally remove the oil from the crankcase by means of a squirt-gun and strain it, to remove the pieces of carbon formed by the splash burning on the inside of the piston. The strained oil can then be returned to the crankcase after the latter has been wiped out clean. An excess of oil carried in the base of a splash oiled engine will quickly foul the spark plugs and cause the formation of carbon in the combustion chamber. This is due to the excessive amount splashed on the cylinder walls, whence it is drawn into the combustion chamber during the suction stroke. The proper amount of oil in the crankcase is just high enough to allow the connecting-rod scoop or crank-box nuts to dip about one-quarter of an inch when the crank is on the bottom center. This height is usually automatically maintained by means of leveling pump and overflow arrangement. The reverse clutch should not be forgotten; a supply of oil put in with a squirt-gun through a plugged hole in the drum is usually enough for several days. The main bearings and crankpins of a cruising engine should run sufficiently cool to be able to bear the hand on them. On speed and semi-speed engines, however, these bearings generally become very warm when running for any length of time under full load—so warm that it is impossible to judge their heat by feeling. The operator soon becomes used to this condition when he finds that nothing happens. In very few of the smaller engines is it possible to feel of bearings while the engine is running. A simple test which may be applied to a warm bearing is to touch an ordinary parlor match to it; if the match is ignited, the bearing is too warm, and it is time to slow down. While this is by no means an accurate test, as all matches do not ignite at the same temperature, it may be the means of saving a bearing.

Specially prepared carbon remover can be obtained in liquid form to clean the combustion chambers. This should be used frequently, to prevent an accumulation of carbon sufficient to cause premature ignition. It is well to treat only half the cylinders one day and the remainder the next, as if all are treated at once it will be found difficult to get sufficient compression on any cylinder to start, owing to flakes of carbon getting beneath the valves. Engine should be cranked until the valves of the cylinders to be treated are closed, to prevent the escape of the liquid, which is put in through the spark plug holes and allowed to remain over night. Before starting motor the next day, remove as much as possible by means of a squirt-gun.

There has been considerable experimenting necessary to produce the good gas engine oils now on the market. To be suitable for cylinder lubrication the oil has to fulfill conditions not necessary for the other bearings. Owing to the high temperature (about 400 degrees F.) of the rubbing surfaces of piston and cylinder, it is necessary to use an oil which does not become too fluid at this working temperature—that is, one which has a high degree of viscosity, and also whose flash point is not below 400 degrees F. Mineral oils are used, as they do not decompose at high temperatures and corrode the surfaces. It is also desirable to have an oil which, when burned, leaves a minimum of residue, thus keeping down incrustation in the combustion chamber. A lighter oil could be used on cam shafts and valve gear, but to simplify the equipment and maintenance of a boat it has been found more practical to use throughout the oil most suitable for the important bearings. As a general rule, light machinery requires thin oil and heavy machinery thick oil. Gas-engine oils on the market are put up as light, medium and heavy, the medium for use on engines up to 100 horsepower and the heavy for larger engines. The yachtsman will do well to use a first-class oil, as his season is short and he has little time to experiment.

The precautions necessary in the handling of gasolene and filling of tanks are so well known as scarce to need repetition. It is well to remember, however, that the danger is not so much from the liquid as from the explosive combination of air and gasolene vapor. Tank compartments and all parts of the boat where such vapor can collect should, therefore, be ventilated, and all gasolene leaks, however small, should be attended to at once. Carburetors should have fitted beneath them pans of ample size to catch any overflow or condensation coming from the carburetor pipe when the engine is stopped.

A kit of tools should form part of every engine equipment, no matter how small the motor. There should be included a set of case-hardened, open-end wrenches, to fit all bolts and nuts on the engine; monkey and pipe wrenches, screwdriver, spark plug wrench, and any special wrenches peculiar to the motor in question. A squirt-gun for applying oil will also be found very useful.

A small assortment of spare parts often comes in handy, and for long trips at a distance from civilization the supply can advantageously be increased. It is a disagreeable, not to say dangerous, experience to be out on the water without tools or parts necessary to make some slight repairs and no tow in sight. Fortunately, such occurrences are becoming more and more rare, thanks to the continual improvements being made in the four-cycle marine motor. Spare parts vary with different makes of motors, but in general the list should contain an exhaust and inlet valve, complete with springs and keys; an assortment of the different sizes of taper pins, cotter pins and cap screws in use on the motor, and a crank box.

If it becomes necessary at any time to send to the factory for a repair part, much time and unnecessary correspondence will oftentimes be saved by using care in describing explicitly the part required. Always be sure to give size and serial number of the engine; a rough sketch will sometimes help in correctly filling the order. The surest way, if it is practicable, is to send back the defective part; the new one sent will then be an exact duplicate of the old. It should be borne in mind that the progressive engine builder is constantly making improvements in his product, so he may not have in stock the part wanted belonging to a model several years old.

The gas engine probably possesses more eccentricities than any of the other prime movers, and the novice is, at times, baffled in seeking an explanation. He, however, soon learns a few "wrinkles" in the handling of his motor, and will find it always ready to respond if properly fed and cared for. Next to a proper mixture of gasolene and air and an electric spark it is important to have compression to be able to start easily. In the absence of compression the explosions are generally too weak to carry over to the next explosion stroke. This condition is often experienced when an engine has stood idle several days. The novice may think his valves leak and need grinding, but a generous dose of oil put in cylinders through the priming cocks with a squirt-gun, combined with a little cranking, will generally bring back the compression.

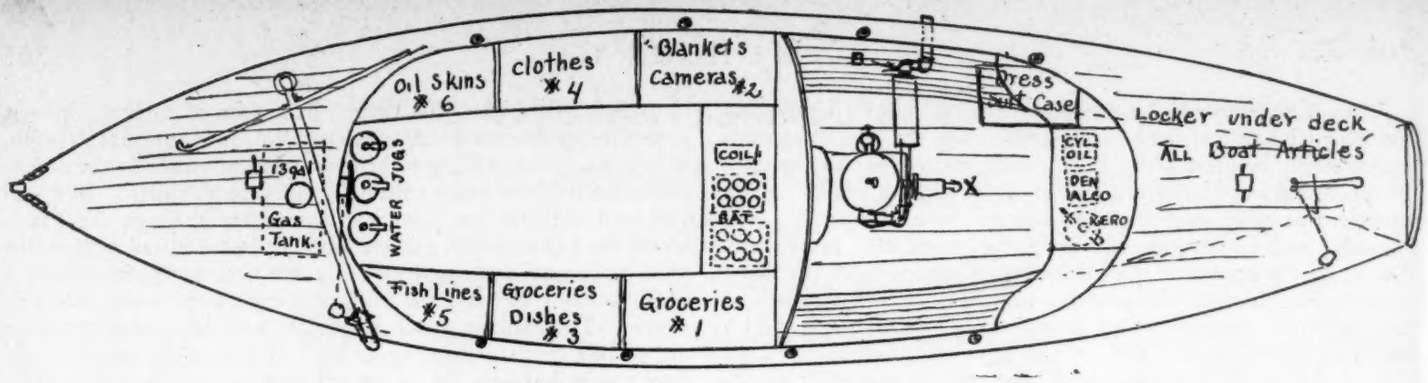
Valves should need grinding only once or twice a season, when indications show that they are not bearing on their whole circumference. If they are allowed to become deeply pitted it may be necessary to have their faces ground in the shop. Valve grinding is quite a simple operation, consisting in turning the valve on its seat with light pressure after having applied a mixture of powdered emery and oil to the seat. The valve spring should first be removed, after which the grinding can easily be accomplished by the use of a screw driver, valves generally being made with slotted heads for this purpose. Grinding must be continued until there is bearing on the complete circumference of the seat, after which all emery should be thoroughly washed off with gasolene before re-assembling.

The operator is sometimes worried by the development of a noise in the running of his motor. There are a number of causes to which unusual noise can be attributed, and it must be confessed the location of a four-cycle engine noise has often baffled the expert. The natural sound of a new motor when running, with mixture and spark plug properly adjusted, is a steady hum; this increases in volume as the motor ages, due to greater slackness in bearings. The operator soon becomes familiar with this sound, and it indicates to him that all is right, so that when an intermittent and irregular knock or grind is heard he is ready to look for trouble. It may be that a slight change in the mixture, or setting the spark a little later, will stop the knock. Another common cause of knocking is premature ignition, which becomes evident in high compression engines after running long enough to become thoroughly heated. The only cure for this is to enlarge the compression space either by raising cylinders or shortening connecting-rods or pistons. Any engine may premature if badly carbonized. The remedy is a dose of carbon remover, as previously described. Misfires, explosions of unequal strength, or any conditions tending to produce unequal torque in the crankshaft, are liable to cause rattling in the reverse clutch. In a majority of clutches the power is transmitted through the gears, which are locked relative to one another in the ahead motion, the teeth acting as keys; and as gears are necessarily fitted with a slight amount of play, the unequal torque here comes into evidence. The rattling clutch may also indicate a propeller shaft out of line, or a damaged propeller. A loose fly-wheel will produce a noise hard for the novice to locate, as the looseness is often so slight as to be almost imperceptible, and the knocking may seem to proceed from almost any part of the motor. A slipping clutch produces a grinding noise which cannot be mistaken, causing the clutch drum to heat quickly. This should be given immediate attention or friction surfaces will soon become cut. It may be impossible to stop to make adjustments at the time, in which case a squirt-gun full of gasolene applied in proximity to the friction surfaces will cause the clutch to hold, by cutting the oil on the surfaces, until adjustments can be made.

After running four or five seasons of average length a motor will have loose pistons and worn bearings, causing considerable pounding. It is then advisable, at the end of the season, to send it to the shop for general overhauling and to be put in shape for the following spring. The owner is too apt to leave this until spring, when shops are overcrowded with other work and his may be slighted, instead of having it attended to during the winter

When the yachting season is over and the time has come to store for the winter, the temptation for some is to leave the motor in whatever condition it happens to be in after returning from the last run. This is a mistake which will be regretted when the warm spring afternoons return again. It may then be found that a lot of work and possibly expense is necessary to get the motor in condition for service. The better way is to spend a little time in the fall and properly "lay up" the motor. The main thing to be borne in mind is that all water and dampness must be removed from every part and surfaces liable to rust thoroughly coated with a protecting material. In the first place, water-jackets, piping, pumps and all places containing water must be thoroughly drained, either by opening pet cocks supplied for that purpose, removing plugs, or breaking pipe joints. It should not be forgotten to supply an air vent at the highest point, either by opening a pet cock or breaking a joint. This is important, as it is often thought that jackets are empty when in reality they are half full of water, because proper air vent was not supplied. In cooling water systems there are apt to be shallow pockets which it is impossible to drain entirely. To dry out these the careful engineer will run his engine for several minutes with the sea valve closed, thus thoroughly drying the jackets and evaporating any water left in the pockets. There should then be put in each cylinder about half a pint of good quality heavy cylinder oil, which can be poured in either by removing valve caps or through spark plug holes. The motor should be cranked over about ten times, to distribute the oil on cylinder walls and valves. Exposed bright work is best coated with vaseline. Brass work, if polished and then given a coat of vaseline, will be in good condition in the spring. Spark coils should be kept dry, and, if the boat is not hauled out under cover, had better be removed. When preparing to go into commission the oil in the cylinders, together with carbon which has become softened and loosened by the oil, will be burned and blown out through the exhaust during the first few turns, leaving cylinders clean.

A little shellac and a small can of graphite mixed with oil may be of use to the operator—the former if it becomes necessary at any time to make up a gasolene joint, and the latter for the purpose of applying to nuts and between metal surfaces requiring occasional removal, as it prevents rusting.



ARRANGEMENT PLAN OF THE 23 BY 6-FOOT CLIPPER DORY NEMO, SHOWING HOW THE OUTFIT WAS STOWED

An Open Cruising Boat

BY F. R. WATERMAN

Illustrations by the Author

HAVING purchased an open boat, we decided to spend our two weeks' vacation aboard of her, the "we" consisting of my wife, boy of 10 years, and myself. When the plan was divulged to our friends we received scant encouragement. "You can't do it in an open boat." "How are you going to sleep?" "How can you cook?" "Suppose it rains?" were only a few of the questions and remarks that were showered upon us.

We are not from Missouri, but made up our minds that we *would* "show 'em."

Perhaps some who read this have been in the same position, and have listened to croakers and given up the trip. Don't pass it up again; read this, then go ahead.

Some people think that one can't sleep over night in an open boat.

We were gone two weeks, slept on board every night, and cooked our three hot meals a day.

During the winter we started a list of what we wanted to take; when anyone thought of anything we would add it to the list, which was divided into three classes for convenience. Everything we had to buy was marked B and put away. We found the list to be very complete, and it saved considerable worry at the time of starting.

As the photo shows, the boat is a smooth-seam clipper dory, 23 feet by 6 feet over all.

The fore-and-aft decks are mahogany; these look very pretty in the spring at launching time, but, unless one keeps a varnish brush in hand, soon dulls. The oak washrail is very wide, which is a very good feature, as it keeps out a sea better, and is easier on the backs of those sitting on the side seats.

As will be seen by the diagram, the side seats run to the cross seat. They did run the whole length of the boat, but we cut them off, as shown, thus obtaining more room around the engine and allowing two cross seats.

The cross seat is the best seat in the boat; from it one can easily look ahead, and it has a removable lazy-back 18 inches high, held in place by an oak strip on each side of the boat, bolted at the proper angle. Two strips of ¼ round, running the whole length of the cross seat, holds the bottom of the back in place, while allowing it to be easily let down or removed.

This cross seat is made watertight, except the back, which is left open. The bottom or shelf to this locker is above the floor line, so that whatever water runs in on the floors is below it.

In this space are two sets of batteries, coil and double-throw switch. These are placed side by side, and a narrow strip nailed around each unit prevents them from sliding around. The high-tension wire is put through a rubber hose, very carefully tapered at both ends. It has been used two years and has yet to give the first trouble.

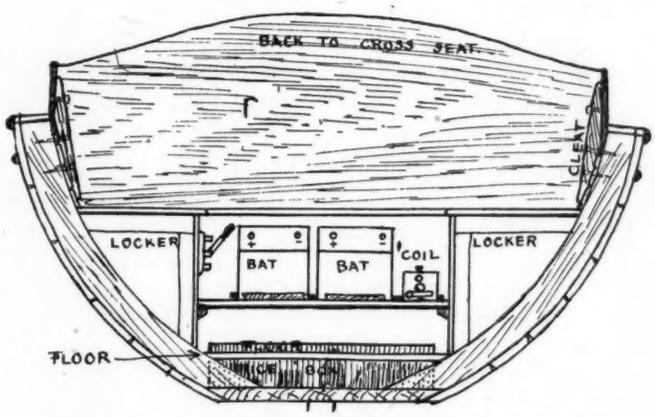
The engine is a 5" x 5", 2-cycle, single-cylinder, jump spark, turning a 16" x 22", 3-blade propeller at 500 revolutions per minute, driving the boat 8 miles per hour.

The exhaust comes out through the side of the boat above the waterline.

The steering wheel is in the bow, but I bolted to the iron tiller a wooden stick long enough to allow of steering from the stern and have the engine within reach. We found this so convenient that the bow steering wheel is very seldom used now.

The bitt at the bow for the anchor rope and that at the stern for towing are made of oak 3 inches square. They go through the decks and fasten into the keel. A block of oak as thick as a carlin, with a square hole in it for the bitt to pass through, is fastened between the carlins under the deck. A brass rod is then put through the bitt flush with the bottom side of the block.

I measured the size of my gasolene tank to find how many gallons it would hold, then made a gauge and marked it in gallons. By measuring the number of gallons in the tank and making a trial trip, I ascertained the number of miles she could run per gallon. Now I can measure my tank and know just how many miles I can go without refilling. This is valuable knowledge when the gasolene supply is miles away.



DETAIL OF BATTERY LOCKER ON ENLARGED SCALE. NOTE ICE-BOX UNDERNEATH.

Finally, the day arrived for our vacation. Up early that morning, as there was work to do in loading the boat. We go to the boathouse with as much as we can carry, and, borrowing a wheelbarrow there, we go back and load it up until it will hold no more. Going down with that load and

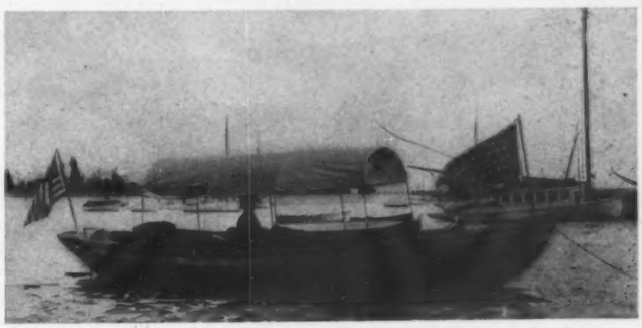
leaving it on the float, we return for what is left and close up the house. Looking over our list, we find everything checked off, so we know we are O. K. From the pile on the float, one would imagine that it was the cargo for an ocean liner. By packing carefully, however, the pile gradually melted away, and the plan of the boat will show how it was done.

In Locker No. 1 we had a grocer's basket, in which were the articles used the most, such as knives, forks, spoons, coffee, sugar, salt, pepper, meal, plates, cups and saucers.

Locker No. 3 contained potatoes, onions, coffee pot, bread, bowls, kettles and pans.

In Locker No. 5 were the fish-lines and some extra rope.

In Locker No. 2 we packed the three blankets, two cameras, film, field glasses and box of cigars.



THIS PHOTO OF NEMO GIVES A VERY GOOD IDEA OF HER CANVAS CANOPY TOP.

In Locker No. 4 we packed the heavy clothes, such as sweaters, coats, etc., and covered over by our oil skins.

In Locker No. 6 we put the canned goods.

In the dress suit case was what is marked on the list; this was set in the corner on the stern seat and covered with a piece of rubber.

In the stern locker were most of the articles marked "For the Boat." All the small stuff, such as nails, screws, bolts and extra parts, were put in small boxes and these boxes packed in a larger one.

Under the stern seat, which is removable, we packed one-gallon can denatured alcohol, one-gallon can cylinder oil and one-gallon can kerosene oil. In a small bag we put the tools, etc. Some extra nails and screws come in very handy sometimes; the spare wire has proved to be valuable, as will be seen later.

We had three water jugs that we put in the bow. One we kept especially for drinking water; we had a good, tight stopper in this one, and whenever at anchor this jug was hanging overboard.

The best way to keep your butter, lard, eggs, etc., is to have a small box to put a piece of ice in. We had a small zinc pan that fitted under the battery locker. This pan was set directly on the bottom planking. The water from outside kept the planks cool, which, in turn, cooled the zinc pan, so that we didn't need any ice.

Well, everything was finally packed away and the gasolene tank filled. With "Good luck!" from a few of our friends and a turn of the fly-wheel, we "were off" at last. At the first turn of the river we turn to take our last look at our friends, who expect us back in a few days.

Chugging down the winding Mystic River to the sound of the steady exhaust, we soon pass under the Middlesex Bridge.

Passing under the Western Division B. & M. R. R. and the Eastern Division, we go between the piling, through the third space from the left side of the bridge, marked by a white diamond in a white ring.

Next comes the Malden Bridge; we go under the draw here, and from the end of the pier to the end of the pier of the Chelsea Bridge is just a knot.

Passing under the draw of the Chelsea Bridge, we are in the harbor.

We cross over to the East Boston side in going down the harbor, as there are fewer boats here. On the Boston side are all the excursion boats, fishermen, tugs, fruiters, and Down East boats.

We pass the slip of the North Ferry and then the South Ferry.

The next ferry line is the Revere Beach & Lynn. These ferry boats are very fast, and leave a wash that is to be avoided in a small open boat.

We then make for the starboard side of the harbor and head for Castle Island.

Passing Governors Island on our port, on our starboard is Castle Island. This island is connected to the mainland by a long bridge. Walk along the shore from here and one comes to City Point. At the headhouse here a long pier makes out into the water.

Between this pier and Castle Island is Pleasure Bay, which is a good place to anchor, being almost surrounded by land.

Just off the point at Castle Island is a black spar and black bell buoy. One may turn to starboard here and go to Quincy by what is called the West way. This is shorter; but as we have plenty of time, we go down the main ship's channel.

Turning slightly to port, we soon pass Spectacle Island on our starboard with four range lights. Next on our port is a black, round, steel lighthouse setting out into the water. This is Deer Island Light, one of the prominent landmarks of Boston harbor.

Back of this light is Deer Island, with its Penitentiary buildings and farm. Separating Deer Island and the main land is the famous Shirley Gut.

Passing Deer Island Light on our port, we see the high headland of Long Island, with a white stone lighthouse on its high point, showing a steady white light.

Just off this point, separated by a narrow channel, is Nixs Mate, which is a stone pinnacle built on a square stone base.

Down this channel is where the Nantasket boats go, and just in beyond is quite an anchorage. Around Nixs Mate is a very bad shoal, which is surrounded by stakes and spar buoys. Passing the bell buoy here on our starboard, we turn to starboard into the channel between the islands. This channel through here is called the Narrows, and is where all foreign boats come through. To port is Lovell's Island, with two low-range lights, one white and one red, used by boats northward-bound. On our starboard is Gallops Island, with the Quarantine Station. We soon have on our starboard George's Island, with Fort Warren. Ahead of us is the Narrows Light, showing a steady red light. This light is more commonly known as Bug Light; it

(Continued on page 394.)

FOR THE BOAT.	FOOD.	CLOTHING.
2 sets batteries.	2 lb. coffee (tin pail).	A good suit clothes to go ashore in.
Volt-Amp. meter.	2 lb. sugar (tin pail).	Stockings.
Compass; Charts.	6 cans condensed cream.	Under clothes.
Coil.	1 lb. butter (tin pail).	Scrub-brush.
Extra spark plug.	1 lb. salt pork.	Tooth-brush.
Fog bell and horn.	1 lb. bacon.	Clothes-brush.
Whistle.	2 dozen eggs.	Tooth-powder.
Lights.	Salt and pepper.	Hand mirror.
Life preservers.	Bottle vinegar.	Shaving outfit.
Packing.	2 lbs. crackers.	Needles, thread.
Grease.	Jar cheese.	Buttons.
Electric Tape.	6 cans sardines.	Safety pins.
1 gal. cylinder oil.	¼ lb. tea (tin pail).	Sweaters.
1 qt. machine oil.	1 lb. lard (tin pail).	Blankets.
1 gal. kerosene oil.	6 cans beans.	Rubber-boots.
1 gal. denatured alcohol.	3 cans soup.	Soap-basin.
Bilge pump.	1 bottle pickles.	Towels.
Elastic cement.	Matches (tin pail).	Bathingsuits.
Extra wire.	1 peck potatoes.	Oil-skins.
Assortment of nails, screws, bolts.	2 qts. onions.	
Engine parts.	Frying pan.	
14-in., 6-in. Stillson wrenches.	Coffee pot.	
6-in. monkey wrench.	Knife sharpener.	
Gas plies.	Carving knife.	
Wire cutters.	Paring knife.	
Screw drivers.	Cork screw.	
Hammer.	Can opener.	
Cold chisel.	Knives, forks, spoons.	
Alcohol stove.	Cups, plates, bowls.	
Fish lines, hooks and sinkers.	3 1-gal. water jugs.	
	Deep stew pan.	
	Galvanized pail.	

THE ABOVE LIST OF SUPPLIES WE FOUND QUITE AMPLE.

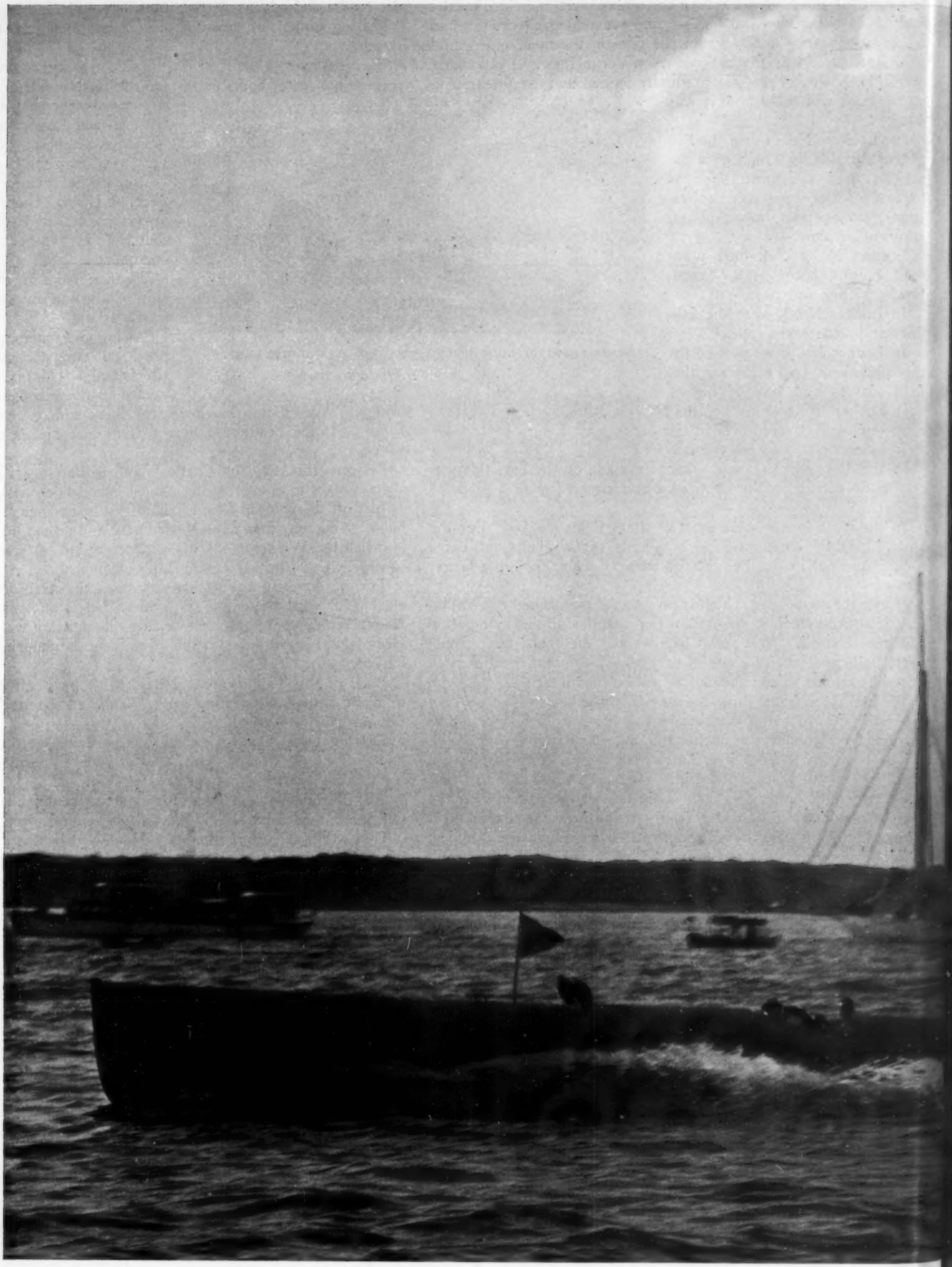
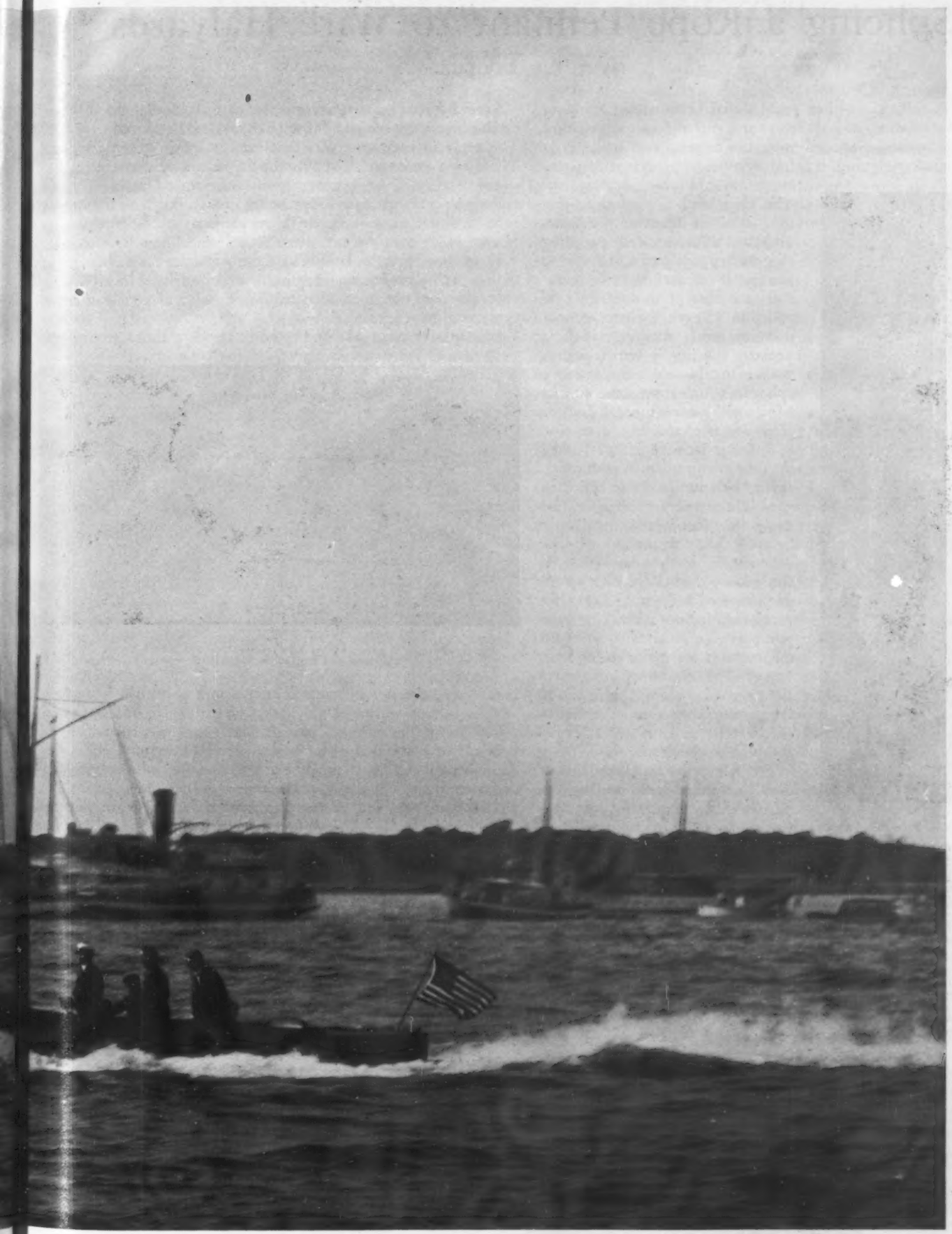


Photo by F. A. Walter.

TARTAR AT FU HUD



HUDSON RIVER.

See page 343.

Splicing a Rope Pennant to Wire Halyards

By W. E. PARTRIDGE

MOST sailors, whether professional or amateur, stand in awe of wire rope. It is so hard, stiff and untractable that it cannot be opened with the fingers, and while it is good for standing rigging, it is hardly available for anything else except, in rare cases, for halyards. The rope used for standing rigging is about the strongest form, and the stiffest as well, and only riggers are expected to be able to handle it under most circumstances. Except to turn an eye-splice in it, even a rigger cannot do very much with it. If it is broken, splicing is hardly worth while, for in order to make a splice in 1-inch rope, some 20 feet of it will be required. Larger sizes will need more.

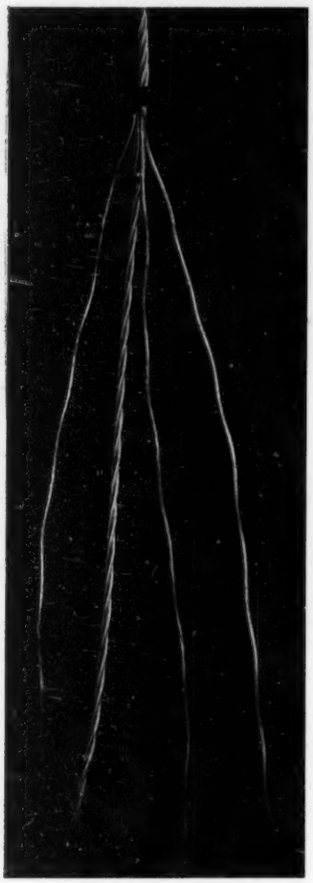


Fig. 1.—Wire tiller rope unlaid for a splice. Hearts cut from two unlaid strands and from the rope itself. One strand with the heart left to show the size.

Splicing in wire is not looked upon by wire rope men with much favor, although a long splice in wire is more perfect than can be made in three-strand manila or hemp. The weakness of the splice is due to the smoothness of the wires, which have little or no grip upon each other, and also because the methods of tucking cannot give the strands much hold on account of their being too hard. The lack of friction and the need for having the splice of the same diameter as other parts of the rope make a great length of splice necessary.

Flexible wire ropes are, however, manufactured which are particularly adaptable for halyards, especially on racing yachts, possessing great strength and durability and sufficient flexibility to work easily through blocks. But because of their small diameter and because they do not take kindly to belaying pins, one must have a pennant of manila attached. To bring the strength of the pennant into some sort of agreement with the strength of the wire, the manila must be at least twice the diameter of the latter.

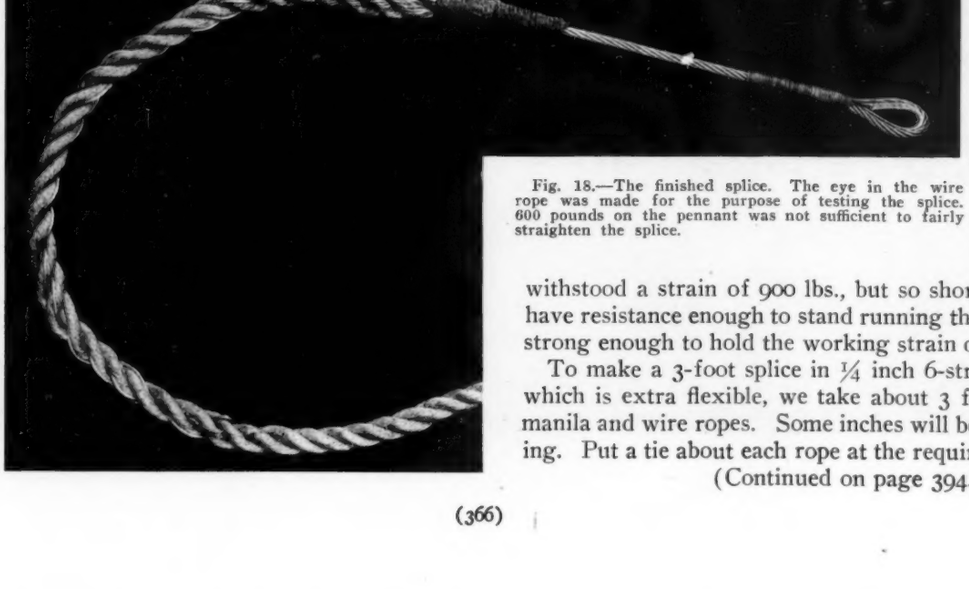


Fig. 18.—The finished splice. The eye in the wire rope was made for the purpose of testing the splice. 600 pounds on the pennant was not sufficient to fairly straighten the splice.

Recently four experts in wire splicing, belonging to different establishments, were asked if wire rope could be spliced to manila. The reply in each case was that such a splice would not hold. These men were employed by some of the largest wire rope works in the country. The splicing of wire halyards to manila or hemp is done by a few persons only, though samples of their handiwork is to be found on most of our larger sailing yachts. But, strange to say, sailor men are not often found who know how to make such splices. For the benefit of those yachtsmen who are out of the reach of a professional to do the work for them, the following description of the method often employed will enable them to turn out a good job:

The smaller sizes of wire running rigging, those from 7/16-inch down, are not difficult to handle, but one must have tools with which to work. A fid and a sheath knife are no longer sufficient for the job. A pair of plyers are needed, which are better if they are also wire cutters. If not, there must be a pair of nippers also. There must be a marlin spike and also a pricker and a hammer or mallet. If the rope is larger than ½ inch two mallets are required. A vise is almost a necessity, but one can get on without it. A few feet of heavy cord and a hammer handle are good for partly untwisting the rope, though this can be done with strong hands in a satisfactory manner.

Fig. 2.—Forcing three strands of wire into the heart of a manila rope. The wire takes little space, and the rope is but slightly enlarged.

In splicing a pennant upon ¼-inch (diameter) wire halyards, the manila part must be at least of ½-inch stuff. The splice will be at least 3 feet in length, although the author has made a splice 8 inches long that withstood a strain of 900 lbs., but so short a splice would not have resistance enough to stand running through blocks, though strong enough to hold the working strain of the wire rope.

To make a 3-foot splice in ¼ inch 6-strand wire tiller rope, which is extra flexible, we take about 3 feet 6 inches on both manila and wire ropes. Some inches will be "taken up" in splicing. Put a tie about each rope at the required distance, also put

(Continued on page 394.)

Motor Boating as It Used to Be

By E. T. KEYSER

"YES," said the old-timer, as he cut off the end of a cigar and proceeded to put a second cup of coffee out of commission, "you have a mighty fine boat here and a lot of new 'stunts' that I never thought of.

"Coming fresh from that portion of the West where there isn't water deep enough to float anything with a draught much heavier than a shingle, I've lost all track of the boating game for the last ten years, and so any criticism on my part may seem in poor taste.

"At the same time, it does seem to me that, in this 40-foot cruiser of yours, you give up entirely too much space to the engine room and a whole lot of accessories, instruments and appliances that we got along very well without in the old days when I, too, used a motor boat. Why, you give up space right in the very best portion of the craft to the 'chug-chug' machinery and a bunch of fancy contrivances. We used to stick our kicker just as far back in the boat as possible, and utilized the rest of the space for carrying passengers and making them comfortable. In fact, I recall the joy with which we hailed the advent of the gasolene motor, because we could stick it way out in the stern, where it didn't take up any room, and then practically forget all about it.

"We didn't bother with voltmeters, ammeters and storage batteries, and we didn't have the remotest idea of how many revolutions the shaft was making, and we didn't care; much less did we spend a bunch of money for an instrument that would allow us to tell whether we were going at 650 or 725 revolutions. When we bought our boat and engine we received with it a book of instructions, a starting crank, a monkey wrench and an oil can, and we seemed to get along very well with these. We used the engine to make the boat go. When we wanted something to pet and nurse and sit up with nights, we went to some institution and adopted a feeble orphan.

"We bought boats in which to go fishing and cruising, not for the purpose of taking a post-graduate course in mechanics; and when a few of us (and there were mighty few of us in those days) got together we discussed cruising routes and fishing grounds instead of make-and-break and jump-spark ignition and the merits of different lubricating systems.

"It seems to me that you new power boaters who go into the sport have entirely lost sight of the fact that it is a sport. You are making it a business, and you are cruising in an amateur machine shop that's rather better equipped than that of the professional two decades ago. I don't want to hurt your feelings, and didn't intend to say quite so much when I started; but it's been gradually accumulating in my system, and it had to come out sometime or other; and now that it's all said I hope you won't feel hurt." And he leaned back and took a long pull on his cigar.

The host and skipper smiled, and it was a somewhat tolerant and amused smile at that.

"No, I don't feel hurt at all," he answered. "Everything that you have said seems superficially true, but you must remember that things look different to you to-day, viewed in the light of memory, than they did when you were a skipper way back in the nineties. Time has smoothed out a whole lot of hard bumps in your experiences and you remember only the joys.

"You have described to a 'tee' the conditions that prevailed when you sold your last motor boat and went out to a place where water is considered a cash asset and is used for irrigation purposes.

"I know it used to be the custom to jam the motor right up in the back of the boat, and then forget all about it until things went so badly that you had to send for a hard-working, painstaking mechanic from the boat company, who took one day to reach you, a second day to diagnose the case, and a third day to pull the engine to pieces, and still another working day to put it together again. All this was at so much per hour plus traveling expenses and board.

"The boat that allowed you to put the engine away aft was the dear, old fan-tailed type of craft that looked so beautiful and picturesque because we were all accustomed to it, and which consumed about 33 1/3 per cent. of the engine's pushing powers in putting the bow way up out of the water and settling the stern so low that it was a wonder that a lot of the outside moisture didn't come into the boat. The other two-thirds of the engine power was consumed in trying to make a pot-bellied monstrosity travel along at the rate of 6¾ miles an hour, while you lied like a gas meter, claiming it was 8½ miles.

"Yes, I know the engine builder had so little confidence in the mechanical abilities of the average boat owner in those days that he only trusted him with a monkey wrench and an oil can. The result was, that when anything went wrong with the engine—and the Lord knows it went wrong as often as a fifteen-dollar-a-week bank clerk who wants to help along an overworked lot of stage folks—you never knew whether the batteries were dead, the exhaust plugged up, or the shaft was out of true. You didn't have the slightest conception of what voltage your ignition system really required, or just how low you could run the amperage of your battery without negotiating for a tow home. Yes, you forgot your engine, all right. You forgot it every chance you had, because when you did remember it you had such a lovely time pulling it to pieces and putting it together that it made you sick.

"In those days 97½ per cent. of the motor boat owners didn't realize that a marine engine was a piece of machinery and entitled to just as much consideration as any other piece of machinery that cost anything like as much. You labored under the delusion that all that was necessary was to keep the oil cups filled and pour gasolene into the tank, and that the engine was going to take care of itself. A man who had been a sailboat owner and had spent hours on his return from each trip in putting on his sail covers, testing every block, shackle, cleat, every foot of running and standing rigging, would forget the gasolene engine and leave it out in all kinds of weather in an open boat, with an old piece of tarpaulin chucked over it when it rained very hard, and then wondered why it wouldn't give good service.

"Yes, I know that the engine was the least considered part of the boat in your day, and that's why motor boating was then a game of guessing as to what was the matter with the engine; and if you went down to the float at 8 a. m. in the morning and could actually get that engine turned over before 12:50 the same day, you won the game. We look at things differently to-day. We have taken the trouble to study up a little as to the why and wherefore of the internal-combustion motor.

"We realize the fact that the manufacturer who built it spent thousands of dollars before he got his first engine on the market. We know that the engine was made to go, and will go under proper conditions, and we have also come to the conclusion that it is up to us to see that these conditions are maintained. When we hear a knock, a bang, or a squeak, we go looking for the trouble, and we find it out and stop it without the aid of a $62.98 repair bill from the master mechanic.

"We don't send for a man to come 35 miles to tell us that our sparking points are foul. We clean them off ourselves in about three minutes and a half. We don't take the engine apart and try to re-align the shaft because a piece of dirt has stuck in the needle valve. We strain the gasolene when we put it in the tank, and we always carry a strainer on the line, and, if there's any dirt.

we get it before the carburetor does. We know that too high a voltage will burn out sparking points on our coils, and we see that our batteries aren't producing a voltage that will do this. When we want to adjust our coils we do it with a low-reading ammeter that gives us definite information, and don't rely on our sense of hearing, that may have been put somewhat out of commission by a convivial evening. We spend a few dollars and buy a tachometer, and we keep our eye on it occasionally, and, as a result, we know when we are losing power before the engine itself finds it out.

"We realize the fact that you can do a whole lot with a monkey wrench, and that about 50 per cent. of what you do is damage, and the balance may or may not be of any particular service. As a result, we carry a kit of tools that is adapted to getting at and adjusting the various parts of the engine quickly; and for every ten dollars we spend in tools we save twenty-five dollars in repair bills and in damage to the machinery. We realize that when a man spends several hundred dollars for a piece of machinery like a gasolene motor he has purchased something that's worth taking care of, and we house it, and house it properly, and we cheerfully pay the necessary money for instruments to tell whether or not things are going right.

"As a result, the gasolene motor that was considered in your days an inanimate bunch of cussedness that would run or balk without provocation and caused a guessing match as to whether it would take you one mile or fifty, is to-day to be depended upon for long-distance, open-water cruises. In your day, when the engine started off at the first turn of the crank, you felt that the unusual had happened. To-day, if the engine refuses to do this, we know we have been neglectful somewhere.

"In your day the engine was a gamble and a motor boat trip more uncertain than the result of a horse race. To-day it is a dead certainty as to just what the engine will do and how many miles we'll go in a certain number of hours if we have done our part by the mechanical equipment. When you bought a motor boat everybody thought the gasolene motor was going to take care of itself. To-day we realize that every bit of property has its responsibilities attached thereto, and that for every bit of pleasure which anyone obtains there is a certain amount of necessary work which someone must perform. You old-timers dodged your responsibilities; we are facing them, and the result is we get more real enjoyment in a week than you people did in six months. That's the reason that a man to-day starts with a 16-foot open boat and ends up with a 40-foot cabin cruiser; whereas in your time one dose was enough, and for every new boat sold there were fourteen assorted junk piles that had been put out of commission by bad management that somebody was trying to get rid of.

"I don't want to hurt your feelings, either," continued the owner, "and if you will come along on next week's cruise with me and see how I handle this power plant of mine and what I get out of it, I'll bet you the price of one mighty good dinner for a half-dozen people that you'll agree that I have substantiated every point I've made."

The old-timer looked up for a minute. "I'm willing to take an even chance," he said; "but I'm afraid I'd be losing on a dead sure thing if I took that bet. You put things a whole lot differently from the way I ever thought of them, and even without that week's experience it looks as if you might be pretty nearly right."

A Mechanical Prophet

A WONDERFUL PIECE OF MACHINERY WHICH DOES THE WORK OF FORTY MEN AND DOES IT SO WELL THAT THOSE WHO FOLLOW THE SEA FOR A LIVELIHOOD OR PLEASURE DEPEND FEARLESSLY UPON IT FOR SAFETY

By C. H. CLAUDY

WHENEVER you go to sea your life depends, in part, upon the correct working of a little machine which rests upon a small table in a government building in Washington, D. C. Whenever you ship anything by water its safety is partially accounted for by that same little machine. Whenever a battleship moves in United States waters, the safety of its anchorage is partly dependent upon this engine.

The engine is called the Tide Predicting Engine, and it does the work of forty men. Not only does it do the work, but does it better, more accurately and quicker than the forty men could do it. Every year the Coast and Geodetic Survey publishes a book of tide tables, showing the times of high and low water for all the ports on the coasts of the United States. These books are universally depended upon by mariners to tell them when the tide will be high, when it will be low, how high or how low it will be, etc., etc. If it were not for the machine these tables would all have to be the results of endless computations by a large corps of computers. As it is, the engine does the work, saves time, worry, expense, and improves accuracy. For the machine makes no mistakes, and if its results are ever wrong it is because it was incorrectly set in the first place.

The engine, apparently, has a good, thinking, mathematical brain. As a matter of fact, it will turn out correct computations only if it is correctly set in the first place. If the correct statistics are put into the machine the correct computations will come out. This setting of the machine is where the connection is made between wheels, cogs and chains and human intelligence.

Tides are phenomena caused by the action of gravity of the sun and moon. If all of the ocean was of the same depth and all the land should disappear; if all the bottom was of the same character and all the weather always the same; if water had neither viscosity, nor inertia, nor friction; if an ideal ocean in an ideal climate covered an ideal and landless earth, the calculation of the recurrence of the times of high and low tide would be entirely one of astronomical mathematics.

However, the ocean varies in depth; there is considerable land sticking out of the water; the bottom of the ocean varies in character; the earth has in various parts of its surface all the weather and all the kinds of weather that exist; water has viscosity and inertia and friction; and so the astronomical factors of a tide are only a part of it. To obtain the data necessary for the computation of a tide at any place, a long series of observations are first necessary to determine the tidal curve at that place. This curve is plotted on a paper from observations made with a tide gauge, and the difference between the mean of these observations, which is the actual tide, and the ideal tide, which would be the result of astronomical factors only, provide the mathematician with data from which he can compute the tides at some future time. He knows from astronomical observations the position of the sun and moon at any given time in the future and can calculate what the tide ought to be; then the calculation is to be modified from the readings of the tide gauge at the particular place. The lay of the land, the depth of the water, the shoals and bars, the prevailing winds and a dozen other things make the difference

between the tides of various localities, as the one-foot tide of some parts of Chesapeake Bay and the tremendous 40-foot tides of the Bay of Fundy. The Isthmus of Panama shows a curious tidal variation within a few miles—the ocean on one side of it has a 2-foot tide and the ocean on the other an 8-foot tide! Hence the necessity of a tidal lock for the canal.

All these things—the position of the moon, the position of the sun with relation to the earth, their positions with relation to each other, the weather and the land and the local conditions—are resolved into factors of the tide. These factors have to be carefully computed and corrected for any one place for which tides are to be predicted. It is considerable work to do this, and, of course, the observations must extend over a long period of time in order to get a mean which will be a mean, and not a freak, due to any one abnormal condition. Once obtained, however, and figured out, the tidal engine predicts the tides with surprising accuracy for the station for which it is set.

Reference to the illustrations will show the appearance of the machine and give some idea of the way the device is constructed and works. In the rear view will be noted seventeen dials. In front of every dial is a small pulley wheel, and passing over each wheel to another one is a small, flexible chain. One end of this chain is seen fixed at the top of the machine in Fig. 2, and the other end can be seen entering the body of the machine, after having passed over the seventeen wheels at the right of Fig. 1. Each one of these pulley wheels is mounted so that its relation with the shaft which turns it can be altered—its degree of eccentricity changed. The amount of change is registered on the scale by which the wheels are set. These wheels and their scales each correspond to some one factor of a tide. Now it is obvious that if the wheels are set with much eccentricity to the shaft they will, on revolving, pull up the chain, and if they were all set with no eccentricity whatever to the shafts they might all revolve without the free end of the chain moving at all. Consequently, if any factor is not known or is not used, the wheel which corresponds to it is set central with its axle and is out of commission, since, while the wheel will revolve when the engine operates, it will not alter the length of the chain. Now these various wheels are so geared that they have different motions. One corresponds to the year, another to the day; others to the cycles of sun, moon and earth, etc.; others to various other factors of the tide. They are so arranged that, when the gearing is operated, there comes a time when the chain is pulled out from the machine to its greatest extension with the then set of the wheels, and the large dial and its pointers indicate the time of high tide. At the same time other dials indicate the day of the month and position of the moon and the heights of the tide. The machine is again operated, and there comes a time when the effect of the eccentricity of the wheels is least effective on the length of the chain, and the dial registers the time of low tide, while the scales show its height also. A small dial inside the large one shows whether it is day or night.

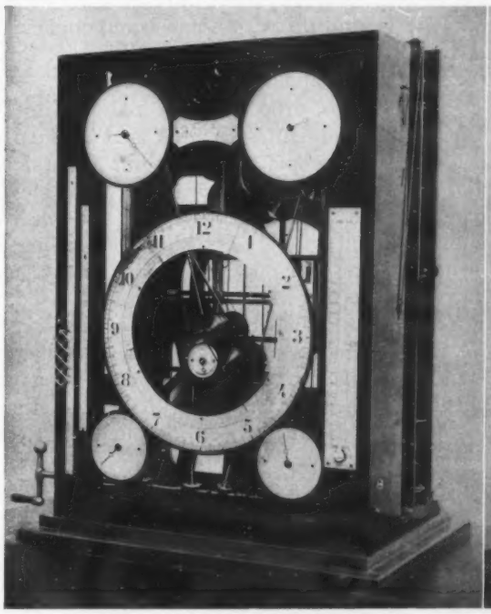


Fig. 1.—Front View of Tidal-Predicting Engine. Point of entry of chain at right of machine.

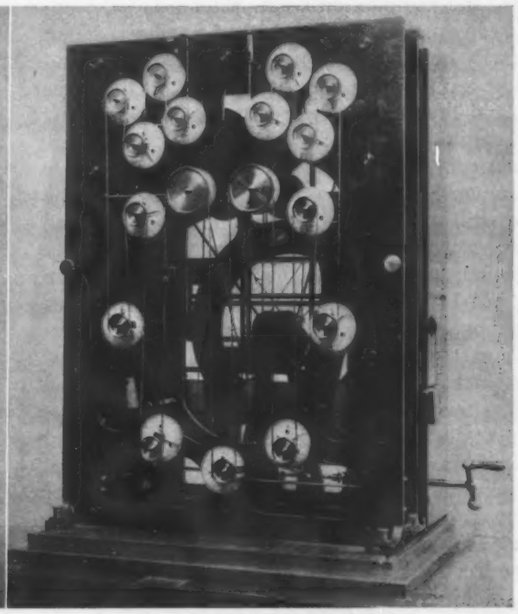


Fig. 2.—Rear View of Tidal-Predicting Engine, showing dials and chains.

To operate the machine it must first be set by careful adjustment of the various factor scales behind. Once this is done, however, a clerk sits in front of the engine and turns a handle at one side, noting with a pencil the various particulars of the tide as the machine indicates them—an entirely mechanical operation. The machine will calculate the four daily phases of the tide for any locality for a year in a couple of days, dependent, of course, entirely on the speed with which the engine is operated and the skill of the operator in transcribing the figures. Then the dials are set for some other place and the process repeated, and yet again, until the tide tables for the coming year are all made up. Such, in brief, is the tidal predicting engine, the invention of Prof. William Ferrel, who gave it to the government free of charge.

There is at present building in the instrument room of the Survey, in the hands of Mr. Fischer, chief of the Instrument Division, another, larger and more comprehensive tidal predicting engine. The new machine will take into account thirty-nine factors of a tide, instead of nineteen, and is a great improvement over the existing machine in that it will plot a tidal curve on paper, and will give not only the times of high and low tide, but the state of the tide at any hour and minute of the day and night. It is very much larger than the present machine, and the mechanical parts are entirely different, as well as being larger and stronger. The present machine has always had a small error from torsion. Two metal slides, representing a sine and a cosine, cross each other with a shaft in their slots, and there is a certain position which is possible mathematically, but not possible to express in machinery. When the slides endeavor to assume this position the shaft binds and an error occurs. The error, however, is periodic, known and allowed for, and so does not affect the final readings. In the new machine this has been entirely obviated, and it has absolutely no dead center.

But allowing the greatest possible error which could be consistently agreed on to the inaccuracies of the machine itself, the results in either the old or the new machine are far more accurate than calculations of computers, since head computation does not take into account nearly as many factors as does the machine—could not, without making such mental labor prohibitive, both in length of time required and effort needed, and in liability to error. The present machine in the Survey is considered the most accurate in the world. There are two or three inferior mechanisms in some foreign countries, taking into account fewer factors, and the U. S. Government even predicts tides for some foreign nations.

The Lady Maud, Schooner Yacht

A NARRATIVE OF HER LOSS ON ONE OF THE BAHAMA CAYS, FROM THE ACCOUNT OF A GUEST ON BOARD

By W. CLARK RUSSELL

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CHAPTER II

IN this manner the afternoon passed, the sun crept over to our starboard beam, but shortly after four o'clock the schooner's helm was shifted, and the vessel brought to a course west, magnetic, and then the sun was over our port bow, and the sea under its blinding light an ocean of flashing gold down to the very stem of the yacht.

Tripshore, the mate, was at the wheel now. He was a plain, pale, sandy-haired man, not nearly so marine-looking as old Purchase so far as clothes and complexion went, yet he had the appearance of a better seaman than the other, and I admired him for that, as he stood airily holding on to the spokes, with his head floating on his neck like a bubble, as first he squinted at the compass, and then aloft, and then to windward, and then withdrew one hand from the wheel in order to wipe his mouth.

We had run the coast very nearly out of sight. Here and there upon the horizon, bearing N.N.W., were blobs of film and the darker shadow of the Bill of Portland. But though there was little to be seen that way, the seaward prospect was tolerably lively, with a number of little coasters buzzing down Channel like ourselves, and a tall old-fashioned brig that dropped astern as though she had an anchor in tow and keeping pace with us, having edged up from the eastward, a long, low, beautifully modeled wooden ship, painted black, with a gilt figurehead, and gilt band along her sides, and white boats. She carried sky-sail yards, though the sails were not set, but her royals topped a beautiful sweep and surface of canvas, and the white cloths which she lifted against the rich blue sky had both the softness and brilliance of foam. She held her spars erect, for there was not weight enough in the wind to give her a list, and the dignity, elegance and blandness of her appearance were absolutely *human*. It was impossible to watch her without thinking of some graceful, swan-like woman "walking in beauty." The trembling water gave back no image of her shining sails, but the shadow of her hull was dark in the sea under her, and defined the thin line of foam racing along her side like a cord of white wool unwinding at her stem and trailing far astern until it vanished amid the blue sparkles.

"A full-rigged ship will always be the noblest example of man's handiwork," said Sir Mordaunt, who had been watching her in silence. "She is a real creation—a living thing,, full of instinct, owing her life to that same breath of heaven by which we exist."

"That vessel may appear a live thing to you, Mordaunt," said her ladyship, "but to me she only suggests the idea of close cabins and a craving for dry land."

I looked to see if she was in earnest; for at that moment the ship that was not above half a mile to leeward of us was as beautiful as a dream, a symmetrical pearl-like cloud against the blue—with a flash and tremble of foam at her forefoot and along her glossy side that was thrown out with all the effect of a cameo or a bit of relievo work by the pale blue water running up beyond her and meeting the azure heaven by the breadth of a hand over her bulwarks. One would have thought that the owner of such lustrous if listless eyes as Lady Brookes's must have had some sensibility to be stirred by that lovely sea-piece. Perhaps had her husband not praised the spectacle she would not have found it so insipid. But it was certain she did not mean to be courted into liking the water or anything that swam on it (I won't say *in* it). The ocean was the doctor's prescription, and she took it as she would a dose of castor-oil.

"Lady Brookes likes inland scenery," said her husband. "Agnes, you remember your first impression of that little valley near Limoges? Very few people, Walton, can admire the beautiful in every expression of it. Now an object like that ship is a finer sight in my eyes than, for instance, the grandest flower show you could walk me through. I don't care for flowers. I never could get further than telling the difference between a rose and a violet." And he wound up with some commonplaces on dissimilarity of taste, with benignant reference to his wife throughout, wanting to please her, and apologize for her too.

It was time to drop the subject; but Miss Tuke was hugely admiring the beautiful ship, that was now so close to us that we could see her people gazing at our yacht from the quarter-deck and forecastle; and she began to ask me questions about the names of the sails, and if I could imagine where the vessel was bound to, and so on. The ship was sailing faster than we, and heading along a course that must carry her across our bows. Tripshore at the wheel eyed her with a bothered look, and old Purchase gazed at her sullenly over the forecastle bulwark, with his chin resting on the back of his great hands. Had I had command I should have luffed the yacht, so as to let the ship forge ahead, and then put my helm up; but whether because Tripshore would not shift the wheel without orders, or because Purchase did not see what might happen, the yacht was kept steady. Presently the ship was no more than three cables' length on our lee bow, and her great heights of canvas looked like a tower into which we were heading as neatly as we could steer. Very recklessly, and almost spitefully, as I thought, the helm of the ship was shifted, and her braces being untouched, the weather halves of her royals and foretop-gallant-sail were aback. The manœuvre threw her almost athwart our hawse; and I said to myself, "Now for a collision, and a week's delay at Dartmouth for repairs."

Purchase jumped up with a roar.

"Where are you coming?" he yelled, tossing his fist at a group of men who were looking at us over the stern of the ship with folded arms, and grinning at us like baboons. "Hard up there Tripshore! hard up, man!"

The spokes revolved like the driving-wheel of a locomotive in Tripshore's hands, but for some moments we were all in confusion, our crew dancing about and shouting at the ship, Lady Brookes calling to her husband, and Norie swelling the shindy by bawling to me to tell him if there was anything he could do. Had it not been for Lady Brookes's alarm, I should have laughed outright, for Purchase, whilst running aft, kicked a coil of rope and fell with his whole length handsomely, his brass-bound cap hopping some fathoms away from him, exposing a pate as bald as a new-born baby's, and rather redder.

We cleared the ship's stern and when all was safe, our men let fly a broadside of insults at her. All the answer they got was a yell of derisive laughter.

So far as Lady Brookes was concerned, the experience was an unfortunate one, for it made her fretful, and stopped her husband for the rest of the day from talking before her about the pleasures

and beauties of the sea, and the agreeable prospect the cruise offered. I did my best to reassure her, but she would not hear me.

"The sea is *full* of danger, Mr. Walton; as a sailor, you must know that," she exclaimed.

"Not half so full of danger as the land, Lady Brookes. Think of the carriages and cabs and carts which are day after day running over people and into one another. Take a street crossing in a crowded thoroughfare, with horses prancing all about one, and blowing their steam into one's very ears. I had rather be in a gale of wind. At sea you have no burglars, no pickpockets, no intoxicated tramps, no excitements of that kind. All is plain sailing, with here and there a few waves."

"You will never be able to convince me against my will," said she, with a cold smile, that showed I was making her angry. And she repeated, for the fourth or fifth time, that nothing but her husband's anxiety about her health could have prevailed upon her to take the voyage.

"Well," thought I, as I left her, "I hope we sha'n't have too much of this. We have not even hove up the Start, and yet here has been as much grumbling as should serve for a trip round the world."

We dined at six. Up to within twenty minutes of that hour we had carried the same steady pleasant breeze that had blown us lightly out of Southampton Water, but it had suddenly veered to the south and east, and the water all that way was a dark blue under the merry sweeping air. I stood with Miss Tuke, watching the swift race of foam creaming and hissing past, and sparkling in the sunlight in green and yellow and pale pink bubbles, as though the reflection of some gigantic prism illuminated the snow-white swirl. Oh, the fresh sweetness of that wind shooting into the nostrils out of the luminous green hollows of the little seas over which the yacht sped, with scarce the lifting by an inch of her bows!

Its inspiration was unpoetical, however, for it made me as hungry as a wolf. The first dinner-bell rang. I handed Miss Tuke down the companion, and a few minutes after four bells had been struck upon the yacht's forecastle (we kept our bells going as regularly as a man-of-war) we had all gathered round the cabin table—all, that is, except Lady Brookes.

"She has no appetite, she says, and complains that her back aches," said Sir Mordaunt, ruefully. "That abominable ship upset her nerves. I wish she were not so timid."

"She can't do better than lie down and keep quiet," said Norie. "The sea air is strong, and she must learn to face it by degrees."

"No, no, it isn't the sea air; it was that confounded ship," answered Sir Mordaunt. "Why, even old Purchase was scared. Did you see him go head over heels, Walton?"

"I did, and thought his object was to let us see what a fine head of hair he has."

"My dear sir, he's as bald as an egg," said Norie—an observation that settled the question of the youth's native land.

When I think of the conclusion of our voyage, the interior of the cabin as we sat at dinner on this the first day rises clear and bright as a painted picture before me. It was, as I say, our first dinner—so far as I was concerned, our first meal—aboard the Lady Maud, and the impression I retain is due to that. One had only to look around to guess that Sir Mordaunt must have spent a small fortune in equipping this yacht as a home for his invalid wife.

A plain man like myself, whose income is too narrow for show, though ample for happiness, who had passed many years (considering my age then) in a rough calling, and who had but very imperfect notions of the character and flavor of those high-flying luxuries which only very long purses indeed can bring down, is no doubt easily impressed. But I cannot be wrong in speaking of the luxuries and elegances with which Sir Mordaunt had crowded the cabins of the Lady Maud as examples of superb taste and polished hospitality. I remember, as I looked around me, thinking, "Good Lord! imagine this schooner in a collision, and all these fine things going to the bottom!" Taking it all round, it was a high tribute of a husband's love to a wife. In reality Sir Mordaunt was as plain a man as I in his tastes. Had he been going this journey alone, he would not have had silver on his table and silk and velvets in his cabins. A cot and a blanket would have sufficed him for a night's rest—a simpler bed, even, than would have suited me—and he would have enjoyed his bit of corned brisket off a plate of cheap china, and swigged down his pint of claret with all imaginable relish out of a two-penny tumbler. Who could look at his kind face, and the concern in his eyes as he would give a half-glance—showing where his thoughts were—in the direction of Lady Brookes's cabin, and not heartily hope that the recovery of his wife's health would repay him for the loving trouble he had taken, the worry her peevish disposition and reluctance had caused him in arranging and proceeding on this voyage across the Atlantic?

"The breeze does not freshen with the setting of the sun," said I, noticing the gradual recovery of the swinging trays, and catching the softening hum of the wind gushing through the open sky-light out of the mainsail with the tremors and mixed notes of a distant band of music. "Listen to the plashing of flat falls of water to windward. I don't like to hear those sounds when I'm in a hurry at sea. What pleases me is to look over the bows and see a semicircle of foam arching out on either hand like the white arms of a swimming girl."

"When shall we come to the place where the water at night looks on fire?" asked Miss Tuke.

"You'll have to wait, my dear," answered Sir Mordaunt.

"Do you mean the phosphorus?" said Norie, with an expression on his face that threatened natural philosophy.

"Oh, don't call it phosphorus!" she replied, laughing. "Explanations of beautiful effects spoil them. I like the way sailors speak of it," said she looking at me, "when they tell you they dropped a pail over the side into the water, and brought it up shining like gold in candle-light."

"Ay, ay; that's how Jack talks," said I.

"No, no; that's not poetical enough for Jack," exclaimed Sir Mordaunt. "What he would say is, 'Bill, d'ye know, when we chucked a bucket overboard, I'm blessed if it didn't come up like new Jamaica rum all afire."

"Scientific authorities curiously differ from one another on the cause of those phosphorescent effects," said Norie. "In the voyage in search of La Perouse they are ascribed to small gelatinous and transparent molecules. But others say it's the decayed spawn of fish. And some call it crabs."

"They might as well call it cauliflowers," said Sir Mordaunt.

"You're bound for the right waters, if you want to see it in perfection, Miss Tuke," said I. "But let me tell you a phosphorescent sea is not always a desirable thing. I was once becalmed in the latitude of the Andaman Islands, and at sunset the whole of the sea right away round the horizon was blood-red. It scared us all to see it. Half an hour after the sun was gone the ocean kept this awful color, proving that the sun was not the cause of it; and what made the scene more fearful, the sky in the *east* was a pale crimson, just as though the sun, like a clown in a pantomime, had jumped through one window merely to pop his nose out of another. As the flush faded out of the sea, as the night deepened in fact, the water grew bright with fire; and presently we were afloat upon a surface of flame—how shall I describe it?—an ocean of red-hot glass. But the barometer! It had sunk an inch and a quarter in two hours; and sure enough, before ten o'clock had been struck, our ship was on her beam ends, with the water up to the main-hatch, nearly leveled by as furious a cyclone as ever struck a vessel."

"I am glad Lady Brookes doesn't hear you, Walton," said Sir Mordaunt. "After that yarn, every flash of phosphorus would distress her as a portent."

"But why," said I, "do you discourage Miss Tuke by telling her she'll have to wait some time before seeing those luminous effects? I have beheld this very water through which we are now spinning brilliant with green lights."

Presently Miss Tuke left the table to go to her aunt. The steward put a box of cigars upon the table, real Havana tobacco, as I speedily discovered. It seemed almost a profanation to smoke in such a cabin, and I wondered how Lady Brookes would relish our easy manners if the fumes reached her berth. Sir Mordaunt, filling a great meerschaum pipe, flung himself along the lee lockers and made a pillow of his arms, and Norie sat pulling swiftly at his cigar, as though the sooner he made an end the better he should be pleased.

There was not the faintest motion in the vessel. She was, indeed, still leaning under the fresh draught of air, but the swinging trays hung over the table without oscillation. The cabin was resonant with the humming of the wind up aloft, and by listening I could hear the noise of the rending of the smooth water by the stem of the yacht, and the hissing of the bow wave breaking into foam abreast of the gangway.

"It should take a deal of this to tire a man," said I.

"You mean a man who likes it," replied Sir Mordaunt. "But, Lord bless me, Walton, there's a deal of cant in yachting. I know owners of yachts—fine vessels too—who after lying a fortnight in one harbor will creep away on a smooth fine morning to another harbor a few leagues distant, and stop three weeks there. They call it yachting! They might do as well with a wherry. Take one of those yachtsmen's trips from the Isle of Wight. After spending a month at Cowes, the owner of the vessel—who you may be sure is a mighty nautical fellow in his brass buttons and naval cap—orders the anchor to be got up, and away they go for Weymouth. They stop at Weymouth a fortnight. Their next voyage shall be to Teignmouth. Here three weeks are consumed in sitting under an awning and fishing over the side. Torquay is not very far off, and so our friend goes to Torquay, and there he stops until it is time to lay the vessel up. I once asked a friend of mine who did this sort of thing regularly—who kept a large yacht, but hated the sea as cordially as my wife does—why he went to the expense of a small fortune a month in making water excursion which he abhorred, when he could visit all the principal seaboard places by rail for the cost of his men's wages for one week. 'Pooh! pooh!' said he, 'you're always sneering.' But I meant no sarcasm."

"Your niece would shame some of those fellows, Sir Mordaunt," said Norie. "I think she would like to be on the water all the year round."

"Her father was a sailor—that may account for her taste."

I asked if her father was living.

"No, he died—why, it must be now over twelve years since—off the west coast of Africa, where he was then commanding a small vessel of war. What a fine, handsome man he was!—a real heart of oak! Why, I see him, Walton, as I see you; his brown face and bright blue eyes, and hair like a lion's mane tossed upon his forehead!" He blew out a great cloud of tobacco smoke, and lay behind it, silent, musing, and pensive.

"And Mrs. Tuke?" I asked.

"Dead too, Walton—dead too. She was my only sister, and I felt her loss terribly. The news of her husband's death broke her heart. I don't mean this metaphorically. She died half an hour after the news was given her, and as the doctors could not account for her death, her body was examined, and her heart found ruptured. What think you of that, Norie?"

"It admits of a physiological explanation," replied Norie, putting down his cigar, half smoked out.

"Ay, of course," said Sir Mordaunt, choking off the science that was threatened. "But what an illustration it is of woman's love!"

"I should say your niece inherits her parents' fine qualities," I exclaimed.

"She does. She is brave and good and warm-hearted, and it is most fortunate that my wife thought of asking her to join us. You see," looking at Norie, "it is unavoidable that Lady Brookes should not always be able to preserve that gentleness of temper which was one of her delightful qualities down to the time when her health gave way. It was necessary that she should have a companion—one of her own sex, I mean—a friend and equal, to read to her, and talk, and be with her. Ada fits the post to a hair, and I'm glad she promises to thoroughly enjoy the run. Shall we go and see what's doing on deck?"

We climbed the companion steps and emerged into a glorious crimson evening. It has half-past seven by the clock under the skylight; the sun was a vast, magnificent, rayless globe, throbbing, and still of a most dazzling glory, poised over the flashing sea in the west; and all away in the south the water was crisp with the breaking heads of the little seas. The Lady Maud was sailing very fast, as any one might have told by following the narrow milk-white wake to where it vanished in the far, dark blue distance astern. The wind was extraordinarily rich to the taste, and blew as warm as a woman's breath. It had come around another point to the south during dinner, and we buzzed along with our square yards well against the lee rigging, and with plenty of main-sheet coiled down near the after-grating. There were smacks and bigger vessels scattered about—the dark brown canvas of the former as red as blood in that light—standing down Channel; and broad upon the weather bow was a yacht apparently steering for the Isle of Wight—an immensely lofty vessel, cutter rigged, with the squarest mainsail I ever saw (indeed, the gaff was very nearly as long as the boom), and a long, narrow, racing hull, so slender that it was wonderful to see such a mighty volume of canvas supported by it. Her lee rail was very nearly level with the foam, and the water all around her and astern was white with her rushing, as though she were in the midst of breakers.

"There's one of those vessels which are pleasanter to watch than to be aboard of," said Sir Mordaunt, dryly.

CHAPTER III

Just before eight o'clock Purchase called the crew aft and divided them into watches. He read out their names, and the men stepped on one side or the other according to the watch they were put into. Sir Mordaunt stood near the skylight, smoking his pipe, and was evidently much impressed by Purchase's square nautical figure and deap sea voice, and the peremptory gestures of his hand as he sung out the names. The men looked a very respectable company as they stood in a crowd near the gangway. They were in uniform, of course, with the name of the yacht in gold letters upon their caps, and white drill or duck breeches and white shoes. When Purchase had gone through the names, he cleared his pipes, took a squint astern to see if Sir Mordaunt was listening, and spoke out as follows: "Now, my lads, here we are bound to the West Hindies, with a beautiful vessel under our feet, and an A 1 gent as our boss. The voyage, as you all know, is undertaken for the cure of her ledship's health, and may the Lord keep His eye upon this hooker for that reason!" Here he gave another squint astern to see if Sir Mordaunt was still listening, and then walked a few paces to leeward and spat over the rail into the water, after which he came back. "Men, we all know one another, and that's a good job. We're not aboard a coalman. I don't say it'll be all nothen to do but to sit down and be blowed along, unless we runs short of holystone, and lose pride in this here lovely whiteness and brightness," pointing to the decks and to

a brass binnacle just before the foremost skylight. "But it ain't colliering, mates. No calking wanted here, boys, and the clews, ye see, fit the yard-arms," looking aloft; "and the gear don't want greasin', nor the duff washin' to get the coal dust out of it. So, mates, as we're bound to be comfortable, give three cheers, one for Sir Mordaunt, t'other for her ledship, and one for the vessel. Take your time from me."

The men were on the broad grin all the time the old fool harangued them, but they cheered as they were told, and heartily enough; yet the whole thing to me was as loose and unsailorly as a scene in a play—what with the spotless white decks, never to be met in that perfection in any other craft than a yacht, and the flowing rig of the men, and old Purchase in his brass-bound cap. All that was wanted, when the skipper ended his speech, was a band of music to strike up, and a song sung, the whole concluding with a marine ballet. I wondered that Sir Mordaunt did not see how theatrical and unshipshape was this bit of sailorizing in his skipper; but instead of looking at it as I did, he was pleased and gratified by the cheering.

"A most characteristic speech, was it not?" said he, as old Purchase went forward in the tail of the men. "Just what a hardy old salt would say. I wish Lady Brookes had been on deck, and seen the men grouped in front of the old chap."

The evening was gathering fast, and the moon in the south grew brilliant as the red flush in the west faded. I lounged about the deck with Sir Mordaunt, and he then went below to his wife. It was the best hour of the day, cool with dew and the blowing of the wind; the moon flashed up the sea in silver under her, and in the east the stars were shining like riding-lights down to the horizon. There were three or four men in the bows of the yacht, and their voices came aft in a faint gruff murmur.

Observing somebody to leeward gazing at the sea under the main-boom, I peered at him, and presently made out that it was Tripshore, the mate.

"I doubt if this wind will hold very long," said I, crossing over to him.

"I don't think it will, sir. It's inclined to slacken away to nothing," he answered, stepping back a pace, and casting his eyes aloft.

"Where should we be about now, Mr. Tripshore?" said I.

"Well, as I reckon, we should be coming on to Portland High Light presently," he replied, pointing away out on the lee bow.

"Why on earth does the skipper take this wide offing?" I asked. "I should have imagined that, as an old coalman, he would have been glad to keep the land in sight as long as ever he could. Is this your first trip with him?"

"Ay, sir; I never set eyes on him before."

"What are *your* experiences as a sailor?"

"Why, I've been yachting for the last three years; but all my time before was spent in big ships."

"And what sort of a crew have you got together, Mr. Tripshore? Pretty good men, eh?"

"Well, it's like this, sir; they're just about the average kind of yachts' crews—a mixture; a few smart sailors, several middling ones, and several bad ones, I should say—sogers, sir; but taking 'em all round, I reckon they'll do."

I stood talking to him for some time, for his manner of speech brought up old days in my mind. It was like being at sea again in the old hookers I sailed in to hear him. I was sure he was a better man than Purchase, and thought it would have been a good job had he got the command instead of the other.

Gradually, as we stood conversing, the vessel lost her list, and the sharp *shaling* of the water to leeward subsided, and now and again the main-boom swung in. To leeward of us, about half a mile ahead, and showing about three points over the starboard bow, was a small lugger-rigged smack that was holding her own against us in a manner that proved her a fast sailer for a craft of her kind. I was examining her through a night-glass, and picturing her little cabin, and the men asleep on the shelves, and letting my fancy run loose on her, when a pretty voice at my ear said: "The wind is dying away, Mr. Walton. What a pity!"

It was Miss Tuke, and alongside of her was one of the big mastiffs, with his back on a level with her hand.

"I am glad you have come on deck," said I; "for you would be missing a lovely night by stopping below. There will be no wind at all soon. But what should that matter? We are not timed, and the longer we can keep Lady Brookes at sea, the stronger her health will grow. Sir Mordaunt tells me," I went on, "that you are a sailor's daughter."

"Yes, my dear father was a sailor," she answered, in a low, sweet voice. "If I had been a man, I am sure I should have been a sailor. It is a hard life, no doubt, as you said; but there is no more manly profession." And after a pause, "What vessel is that out there?"

"A smack. Take this glass; you will see her plainly." She looked, and then gave me the glass and went to the compass, and as she peered into it the haze of the lamp sparkled in her hair, and her face looked like a piece of exquisitely sculptured marble.

"Weren't you in the merchant service?" she asked, coming back to me.

I told her yes.

"Isn't the Royal Navy better?" said she.

"No doubt," I answered.

"I don't believe you think so, though," said she, laughing.

"The merchant service turns out finer seamen, because in the merchant service a man goes through a training he never gets in the navy," said I. "The life is harder, the experiences always of a practical kind, and there is no playing at sailor, as there is in the navy. But the navy man has the better social position; all the sea songs which are made are about him; he puts State money into his purse, wears a uniform, and his ship is always clean."

"Yes, and how beautiful his ships are, too!" she cried.

"How many years ago are you speaking of, Miss Tuke?"

"I suppose I must say when I was a little girl, for then it was that I saw a frigate called the Impérieuse. If I knew your sea terms I could describe her. I can see her now, resting like a swan upon the water, with a broad white belt painted along her, dotted with guns."

"Oh, you are speaking of the age of wood: we are now in the age of tanks. I remember the Impérieuse; I saw her in China, in the Bay of Pechili, and alongside of her a sister ship, the Chesapeake, with Admiral Hope's flag flying. Ay, they were lovely fabrics indeed. We shall never see their like again for every picturesque quality that made the fifty-gun frigate the loveliest object in the world."

Here Norie forked his body through the companion; he stood sniffing and looking around him, and presently spied us under the main-boom.

"Surely this can't be the sea!" he exclaimed. "Where are the waves? Why, it's like Windermere, or an Irish lake!"

The water was indeed extraordinarily smooth, and had been so all day, but never so noticeable for that as now, owing to the burnishing of it by the moonlight, and the failing of the wind, and the reposeful shadow that girdled it. Even the light canvas was giving an occasional flap as the expiring draughts of air came and went, but these were the only sounds aboard the schooner.

"Forward, there!" sung out Tripshore, who had been pacing the deck abreast of the gangway; "lay aft some hands, and get a drag upon the lee forebraces!"

The fellow on the lookout echoed the order, and in a few moments several dark figures came along, coils of rigging were flung down, and the yards were braced up. The noise brought Sir Mordaunt out of the cabin.

"Hillo, Walton!" he called out. "Has the wind all gone? Why, just now we had a stiff breeze."

"All but gone, Sir Mordaunt."

"Is that you, Mr. Tripshore?"

"Yes, sir."

"What are you doing?"

"Trimming sail, sir. The draught's drawed ahead, but it'll be failing us altogether presently."

"We're booked for what the Spaniards call a furious calm," said I.

It was, however, the right sort of weather to make one's self comfortable in. Chairs were brought, the steward placed decanters and glasses upon the skylight, and there we sat in the moonshine, which was now so brilliant that I could have read a book by it.

I inquired after Lady Brookes. She was asleep. "And the best thing, too, for her," said Norie.

"And sleeping very soundly, Norie," said Sir Mordaunt, cheerfully. "Oh, depend upon it, the doctors are right. There's nothing like sea air."

I heartily agreed with him as I lay back in the very easy chair that had been placed for me, watching the smoke of my cigar, blue as steel in the moonlight, go up straight out of my mouth. But though there was no air to be felt on deck, the light canvas was faintly drawing aloft, and the occasional sobbing of water under our counter was a sure indication, upon that perfectly smooth surface at all events, that the yacht had steerage-way.

CHAPTER IV.

A comfortable bed is a small thing to talk about, but a fine thing to enjoy. Considering how large a part of life is spent in bed, allowing only eight hours out of the twenty-four there, if you choose, a man is wise to lie soft and warm. For my part, I have no opinion of those Wellingtonian notions of hard palliasses and pillowless bolsters. If I can't be manly without racking my bones all night, I would rather remain without any sex to speak of. The science of upholstery hit upon the most perfect bed for comfort, rest and refreshment when it designed the spring mattress and hair mattress on top of it. That was my bed aboard the Lady Maud; and as I bundled into the snow-white sheets, and dipped my intellectual brow into a pillow of down—soft as the feel of water when a man floats on his back—I felt that the cynics would have to exert themselves into an uncommon effort of eloquence to persuade me that life isn't worth having.

I was sleeping soundly when the steward knocked at my door and sung out that it was eight o'clock. As my consciousness brightened, I took notice, first, that the bracket lamp, screwed against a timber near my head, was oscillating like a pendulum; next, that the sunshine flashed into and faded out of the little cabin in a very windy manner; and lastly, that there was a great sound of creaking and groaning and splashing going on all around me.

"So! an honest breeze of wind at last!" thought I, as I sprang out of my bunk and began to topple about after my clothes; and the springing, swashing, hopping motion of the craft putting an uncommon buoyancy into my mind, I tuned up my pipes:

"'Another pull, my lads! belay!'"

Here I hauled on my small-clothes.

"'Up with those yards, and let her go!"

Here I fought my way out of my night-gear.

"'Ours is the ship to run away
When stormy winds abeam do blow.'"

Now, thought I, for a dip; for I had noticed a capital bath, with a shower-box rigged up over it, in a bit of a room just before the skipper's cabin. No sooner was my door open than an extraordinary noise greeted my ear. What *can* that be? thought I. But a moment's hearkening solved the mystery. It was, indeed, nothing more nor less than poor Norie *roaring* with nausea in the cabin facing mine. First he would moan like a dog at the moon, gradually increasing the intensity of the sound and hoisting it up a whole octave until it ended in an explosion—a complete blow-up—after which he would fall to the moaning again, regularly followed as I have described. But however heartily I may have sympathized with him, I could do him no good; so, the coast being clear, I bolted forward, clawing along the side of the table in the cabin like a parrot along a perch—for the motion of the little vessel was lively enough to dance me off my legs—and reaching the bathroom, soused myself, and went aft again, inconceivably refreshed. Silence now reigned in Norie's cabin. As I arrived abreast of it the steward came out.

"Is Sir Mordaunt up yet?" I asked.

"Yes, sir, this hour gone. He's on deck, sir."

"Mr. Norie seems very bad."

"Terrible sick, to be sure. Almost alarming at times, sir," he answered.

"How long has this breeze been blowing, steward?"

"Why, it's been fresh since four o'clock, so Mr. Purchase told me, sir."

"How is her ladyship?"

"I've not heard that she's much inconvenienced by the motion. But her maid's down, sir, quite helpless, poor thing!" and he pointed to the cabin next Lady Brookes's.

"And Miss Tuke?" I asked, determined to get all the news at once.

"Miss Tuke's on deck with Sir Mordaunt, sir."

Hearing this, I made haste to dress myself; but before I went on deck I opened Norie's door and looked at him. Our friend was to leeward, and as the schooner was lying well over, the porthole was submerged, and all that could be seen through it was the bright green water sluicing past the thick plate-glass like a mill-race, and gurgling and thundering as it went. Some light, however, came down through the bull's-eye in the deck overhead.

Norie lay in his bunk, with a counterpane over his legs, though his toes were visible at one end of it. He was the completest picture of a seasick man that the most experienced imagination could body forth—head on one side, mouth open, eyes filled with water and rolling vacantly, hair over his forehead, the whole tinted with the hurrying, quivering green of the sea through the porthole.

"Sorry to find you in this plight, Mr. Norie," said I. "Can I do anything for you?"

"Don't talk to me, Mr. Walton; I can't speak," he groaned. "Curse the sea! I thought I could stand it."

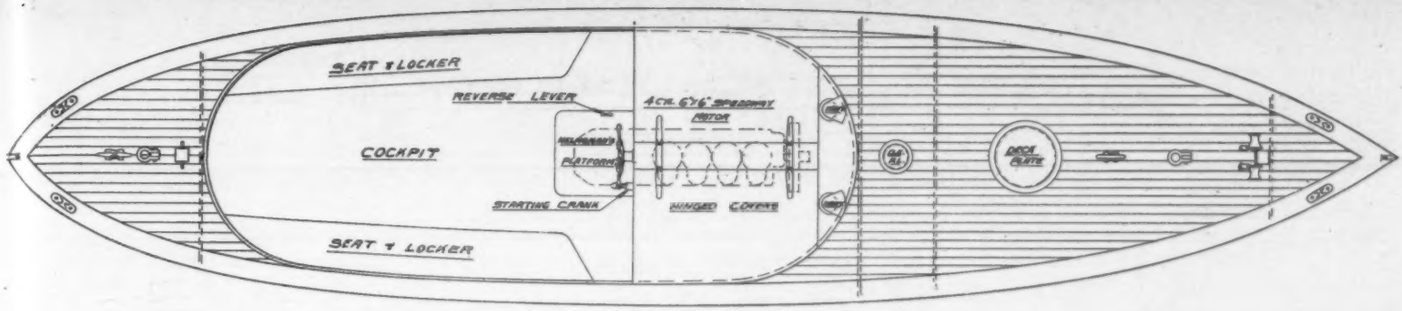
"You'll be able to stand it presently—have no fear. Once well rid of your 'longshore swash, you'll take a delight in the rolling deep."

He motioned with his hand, and looked so abject that I had no heart to offer him further consolation.

"Tell the steward to keep near me," he gurgled as I went away.

On putting my head through the companion, I found Sir Mordaunt and his niece standing close beside it. I wished them good-morning, but at the top of my voice, for what with the washing of the seas and the booming of the breeze aloft there was the devil's own noise about. Sprawling aft to look at the compass, I found the schooner lying her course, with the wind a couple of points free. Of all foamy, sparkling, windy mornings, this was one of the grandest I can remember. The wind a summer gale, sweeping and singing over seething heights of running surges; the water among the foam as green as emerald, and as radiant and clear; above our mast-heads a sky of violet—a most delicately tender blue—with masses of cloud resembling vast enlarging puffs

(Continued on page 396.)



A 35-Foot Gasolene Pilot Boat

THE 35-foot launch designed and built by the Gas Engine & Power Company and Charles L. Seabury & Co., Consolidated, of Morris Heights, for service as a pilot boat at Panama, possesses so many features which would render her a particularly serviceable offshore runabout and fishing boat that we believe her plans and description will interest our readers.

This craft is 35 feet in length overall and has an extreme beam of 7 feet 6 inches. She draws 34 inches of water at the skeg, and her motor, a 4-cylinder, 6 by 6 Speedway, of 32-40 horse-power, gives her a speed of something over 10½ miles per hour. The boat has a slightly curving bow and a whaleboat stern. There is 5 feet freeboard at the bow, 2¾ feet amidships and 4 feet at the stern. This, in combination with her rather full deck line, should make her a dry and easy riding boat in a short chop.

A 35-FOOT LAUNCH WHICH WOULD MAKE AN ABLE AND COMFORTABLE FISHING BOAT.

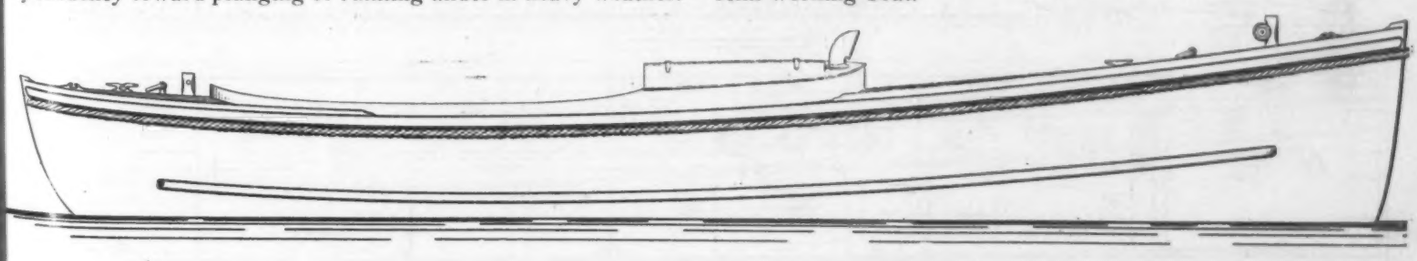
The fact that the forward deck is 13½ feet long adds considerably to her dryness and makes her pretty nearly an ideal rough-water open boat. The cockpit, 11 feet in length, has a locker seat along each side, with a steersman's platform at the forward end, at which are centered steering wheel, reverse lever, starting crank and throttle and spark controls. Forward of the cockpit is the motor space 5½ feet in length and covered with a hinged hood and ventilated with two good-sized cowls. The gasolene tank, which has a capacity of 125 gallons, runs across the full width of the boat directly in front of the engine space and is separated from the forward portion of the boat by a watertight bulkhead. This bulkhead, in connection with another one located in the extreme bow, renders most of the space under the forward deck an air-tight compartment, which, in connection with that in the stern, makes the boat unsinkable unless she is actually stove in. The centralization of the weights amidship and the shape of both her bow and stern obviate any tendency toward plunging or running under in heavy weather.

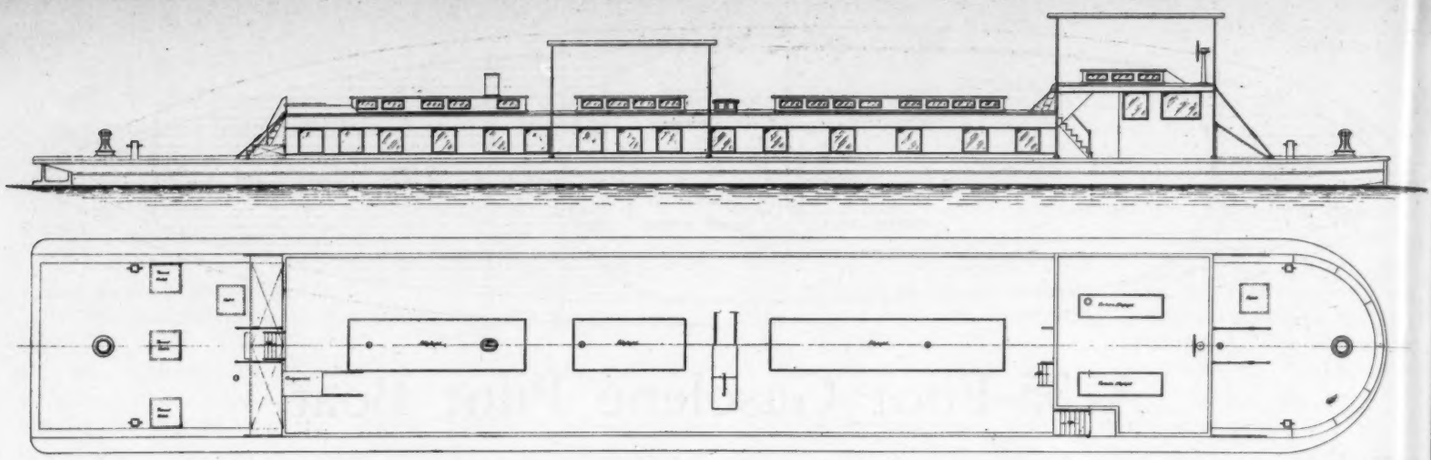
With the heavy rubbing streaks removed and a space for a refrigerator added, this boat would make an ideal type of craft for blue-fishing trips and visits to the nearby fishing banks which lie along our coasts. The cockpit space is ample to accommodate a moderate-sized party, and the entire protection of the engine by the hood in rainy or rough weather, together with the boat's ability to give a good account of herself in all reasonable and considerably unreasonable weather, should recommend her to those sportsmen who enjoy deep-water fishing. Her speed is sufficient to allow her to make a run of 30 miles and back and yet leave ample time for fishing the best part of a tide.

Such a boat, plainly finished and without ornate trimmings, carried on the deck of our larger cruising steam yachts, would provide a good means for furnishing splendid sport in waters where the average power tender would be entirely out of place.

With the Samson post aft and windlass bitts forward, there is something extremely business-looking about this little ship. The tremendous amount of stowage space under the forward deck is readily accessible through a good-sized water-tight deck plate. As will be noticed by referring to her deck plan, there is plenty of room all around the engine to allow tinkering with her power plant without the necessity of the tinkerer tying himself into hard knots or wishing that he was double-jointed.

The photograph of the boat in actual service gives a good idea of her general appearance and shows the simply-arranged and easily-adjusted type of sprayhood, which serves admirably both for use in stormy weather or for a cockpit cover. The general layout shows how the advantages of a long forward deck, engine accessibility and one-man control, as acquired in experience with the fast runabout type of craft, have been adapted to the sturdy, semi-working boat.

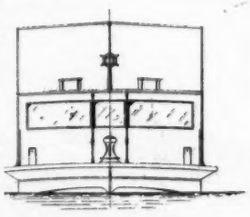




A 130-Footer with 12½ Inches Draft

THE many bayous of the lower Mississippi River and the connecting waters of its smaller and shoaler tributaries are a new and almost unknown field in the yachting world; and the conditions surrounding the navigation of these waters require a craft differing very materially from the conventional yacht found in Northern and Eastern waters. Some of the rivers of the West and Southwest have been known to shift their channel several hundred yards in one night, so that a boat comfortably anchored one evening may find itself high and dry and several hundred feet from the water's edge before morning, requiring skids and rollers to bring her back to her native element.

These conditions logically demand a vessel of exceedingly light draught, combined with great structural strength, to be able to withstand the heavy stresses when running aground or left aground by a rapidly falling stream.



A Western yachtsman who has had some experience in these comparatively unknown waters has decided to have built for him a vessel especially adapted to meet these requirements, and has commissioned Gielow & Orr, of New York, to work out the various details for this craft; this firm also superintending the construction of the vessel. The contracts have been signed and she is now being built at Jeffersonville, Ind., and will be ready for use on or before the first of February, 1911.

The principal dimensions of this new craft are: Length overall, 130 feet; length on load waterline, 126 feet, and beam, extreme, 20 feet 8 inches. The most remarkable feature is her extremely light draught, which will be only 12½ inches when fully loaded and with all her equipment on board.

The hull will be constructed of mild steel of the very best quality, and her scantling will be light, though in no sense extreme in this regard. In fact, her plating ranges from 3/16 of an inch to ¼ of an inch in thickness. The hull is subdivided into a number of compartments by means of steel bulkheads, so that even with several compartments filled with water the vessel will still remain afloat.

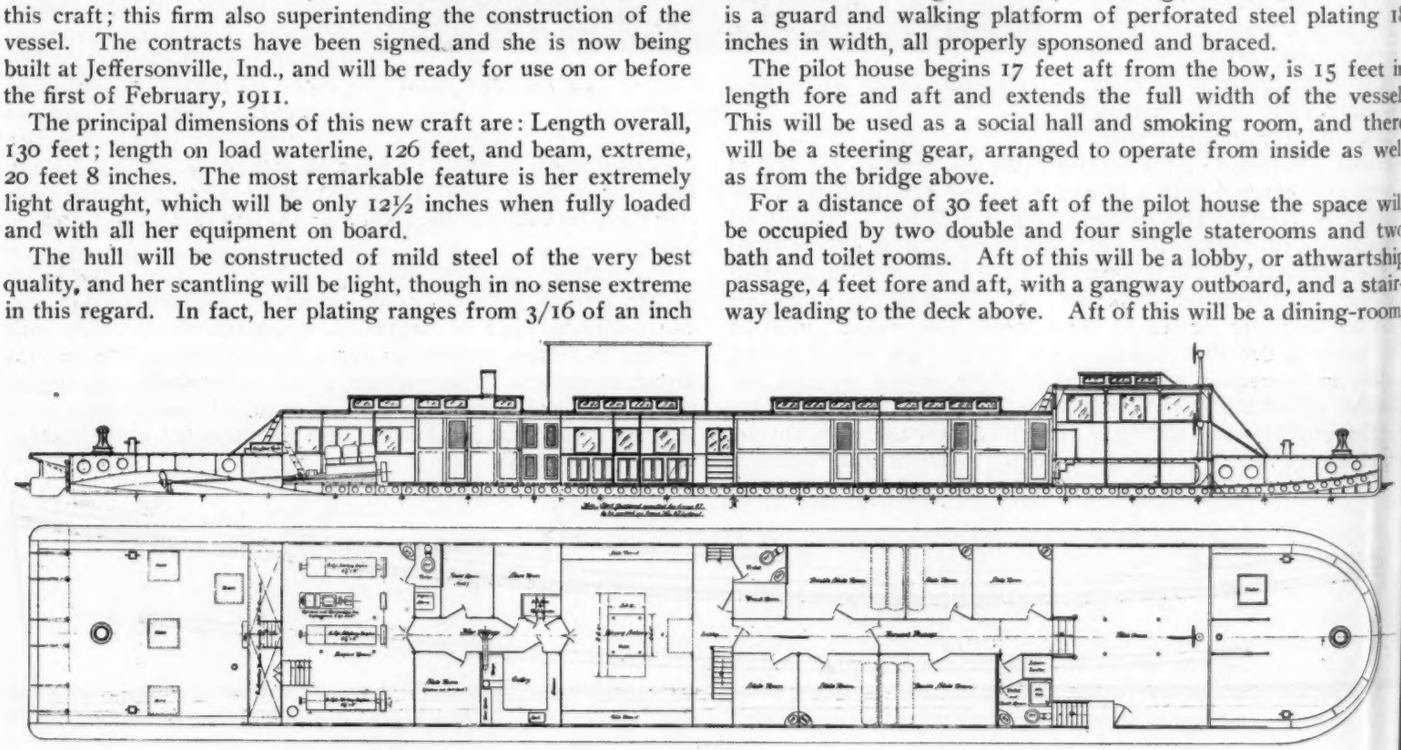
Great structural strength is obtained by a system of cellular construction of her bottom, which makes the vessel exceedingly rigid. Although not intended for outside or sea work, great longitudinal strength is obtained by carrying up the framing of the hull to the upper deck, and by means of steel deck beams, stringers, plates and diagonal bracing.

The decks are constructed of 5-ply white wood veneer ⅝-inch in thickness, each in five layers, three running fore and aft and two athwartships, glued together with a special glue capable of withstanding moisture indefinitely. These decks are painted on both sides, and are covered with canvas, which is also painted. The stateroom bulkheads are all constructed of similar material, and all doors are of the lightest possible design, with "Louvre" panels in their upper halves.

The bow is of the spoon type, semi-circular at the deck-line; and along each side, extending all around the vessel, is a guard and walking platform of perforated steel plating 18 inches in width, all properly sponsoned and braced.

The pilot house begins 17 feet aft from the bow, is 15 feet in length fore and aft and extends the full width of the vessel. This will be used as a social hall and smoking room, and there will be a steering gear, arranged to operate from inside as well as from the bridge above.

For a distance of 30 feet aft of the pilot house the space will be occupied by two double and four single staterooms and two bath and toilet rooms. Aft of this will be a lobby, or athwartship passage, 4 feet fore and aft, with a gangway outboard, and a stairway leading to the deck above. Aft of this will be a dining-room.



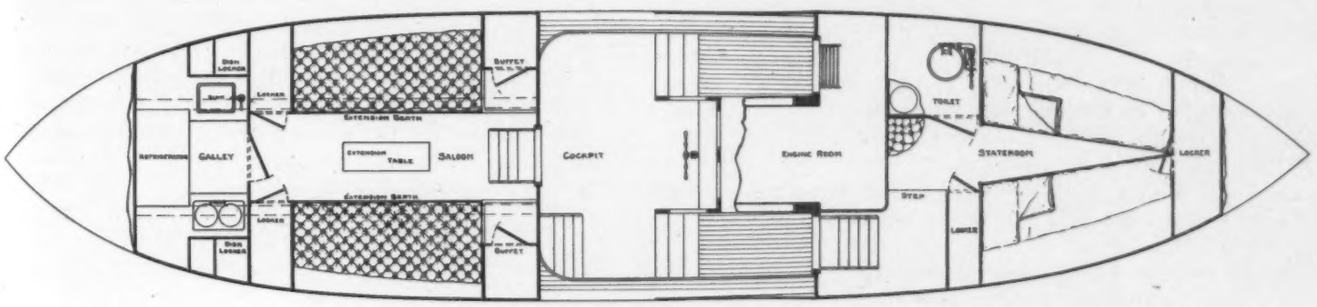
12 feet 6 inches in length, extending full width of the vessel, fitted with dining table, buffets, sideboards, china closets, etc. Abaft of the dining-room will be a galley on starboard side and a storeroom, pantry and refrigerator on the port side. Aft of this, on the port side, will be a stateroom for the cook and steward, and, on starboard side, a stateroom for the engineers. Next comes the engine room, 12 feet 6 inches in length, and abaft of this the after deck, 31 feet long, stiffened and braced, to be able to carry an automobile and other heavy loads.

In addition to the windows in the sides of the cabin, skylights are provided, so as to insure the most perfect ventilation possible. The interior woodwork will be finished in white enamel throughout, excepting the bureaus and other furniture, which will be of hardwood, finished bright. Brass bedsteads will be used in all the staterooms. The plumbing system provides for running water throughout the vessel.

The propelling machinery will consist of three 60-horsepower, heavy-duty Sterling engines, which will be capable of driving the vessel at a speed of at least 12 miles per hour. On account of the light draught required, the propellers driven by these engines will be operated in tunnels, so that the wheels will be fully protected from submerged logs or in case of the vessel grounding. The gasolene will be carried in cylindrical steel tanks especially enclosed in watertight compartments, and these tanks will have a capacity of fifteen hundred gallons, which will give a cruising radius of over fifteen hundred miles at normal speed.

The yacht will be equipped with electric lighting plant and storage batteries, and will also have an independent ice machine and refrigerating plant, thus supplying ample cold storage for carrying perishable provisions on extended cruises. Power capstans are provided at each end for handling lines and for use in pulling the vessel off in case of grounding.

The yacht will be equipped with the usual boats, and will be furnished and fitted throughout in a tasteful and comfortable manner. This vessel is so much of a departure from the conventional that her performance will be watched with unusual interest.



A 45-Foot Cruiser

AT first glance this 45-foot cruiser gives the impression of being decidedly odd. A close study of her profile and cabin arrangements, however, soon reconciles one to the novelty of her appearance and her many good points become manifest.

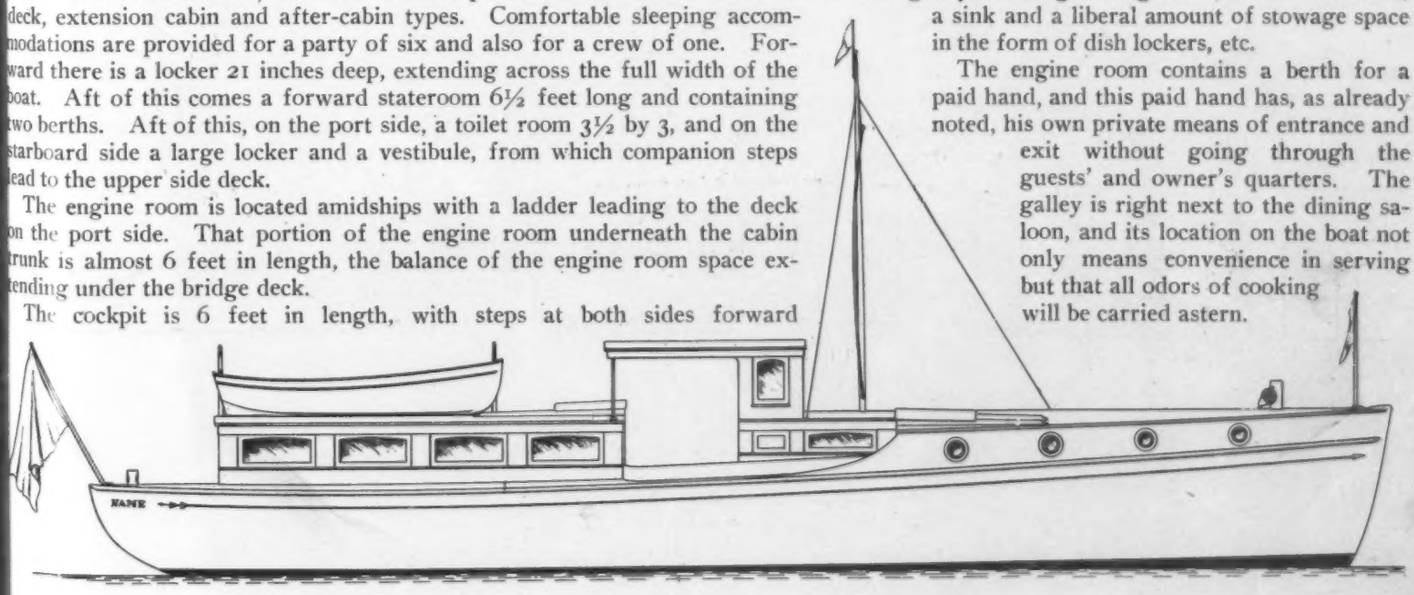
She was designed by Frederick S. Nock, of East Greenwich, R. I., with the idea of providing such protection for the midship cockpit that there would be no necessity for an after-steering station, thus allowing the after-cabin accommodations to contain the greatest amount of available room possible in a craft of this size. As will be noticed, the boat is a composite of the raised deck, extension cabin and after-cabin types. Comfortable sleeping accommodations are provided for a party of six and also for a crew of one. Forward there is a locker 21 inches deep, extending across the full width of the boat. Aft of this comes a forward stateroom 6½ feet long and containing two berths. Aft of this, on the port side, a toilet room 3½ by 3, and on the starboard side a large locker and a vestibule, from which companion steps lead to the upper side deck.

The engine room is located amidships with a ladder leading to the deck on the port side. That portion of the engine room underneath the cabin trunk is almost 6 feet in length, the balance of the engine room space extending under the bridge deck.

The cockpit is 6 feet in length, with steps at both sides forward leading to the side decks and an after companionway in the center leading to the after-cabin. This after-cabin is housed under a raised trunk with large plate glass windows, and this trunk, while of sufficient width to allow full headroom in the standing room of the after-cabin, yet allows a liberal width of side deck room.

At the forward end of the cabin on each side is a large buffet. Next come two extension berths wide enough for two persons on each side, and in the center an extension table. At the after end, on each side, are two large stowage lockers, and at the extreme end of the trunk is a galley 4 feet in length and the full width of the boat. In this galley is a large refrigerator, a two-hole stove, a sink and a liberal amount of stowage space in the form of dish lockers, etc.

The engine room contains a berth for a paid hand, and this paid hand has, as already noted, his own private means of entrance and exit without going through the guests' and owner's quarters. The galley is right next to the dining saloon, and its location on the boat not only means convenience in serving but that all odors of cooking will be carried astern.

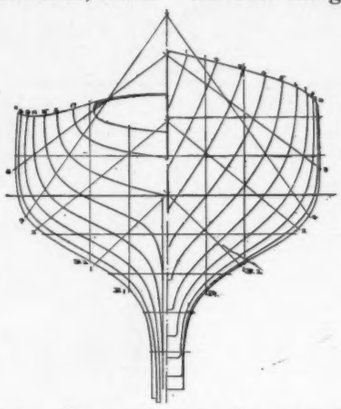


The engine room is entirely isolated from all the living portions of the boat. The pilot house effect over the center of the cockpit is something of an innovation in this country, although many cruising boats abroad are arranged in this manner and the idea is extremely practical. The raising of the drop sash forward of the steersman allows the boat to be managed from this position in any kind of weather with comfort to the man at the wheel. It will be seen that there is very little waste space, and that an amount of locker room is provided that goes far to insure comfort and convenience on extended cruises.

A 40-Foot W. L. Cruising Ketch

THE cruising yacht from 35 feet to 40 feet waterline will always be a popular size on the Atlantic Coast, as such a boat can be run by a small crew, will give real comfort above and below decks, and yet is large enough to go anywhere along the coast.

The accompanying plans were drawn by John G. Alden, naval architect, of Boston, Mass., who has had much experience in sailing craft of this size, for H. W. Hanan, of New York, who desired a boat that could be handled by himself and one paid hand on deck. For this reason the ketch rig was adopted in preference to the sloop or yawl, giving a mainsail but little larger than found on the ordinary 25-foot waterline cruising knockabout. For this reason the boat was made rather narrow, in order to be easily driven by the small sail plan; but the bilges were made hard and ten tons of ballast carried to insure stiffness.

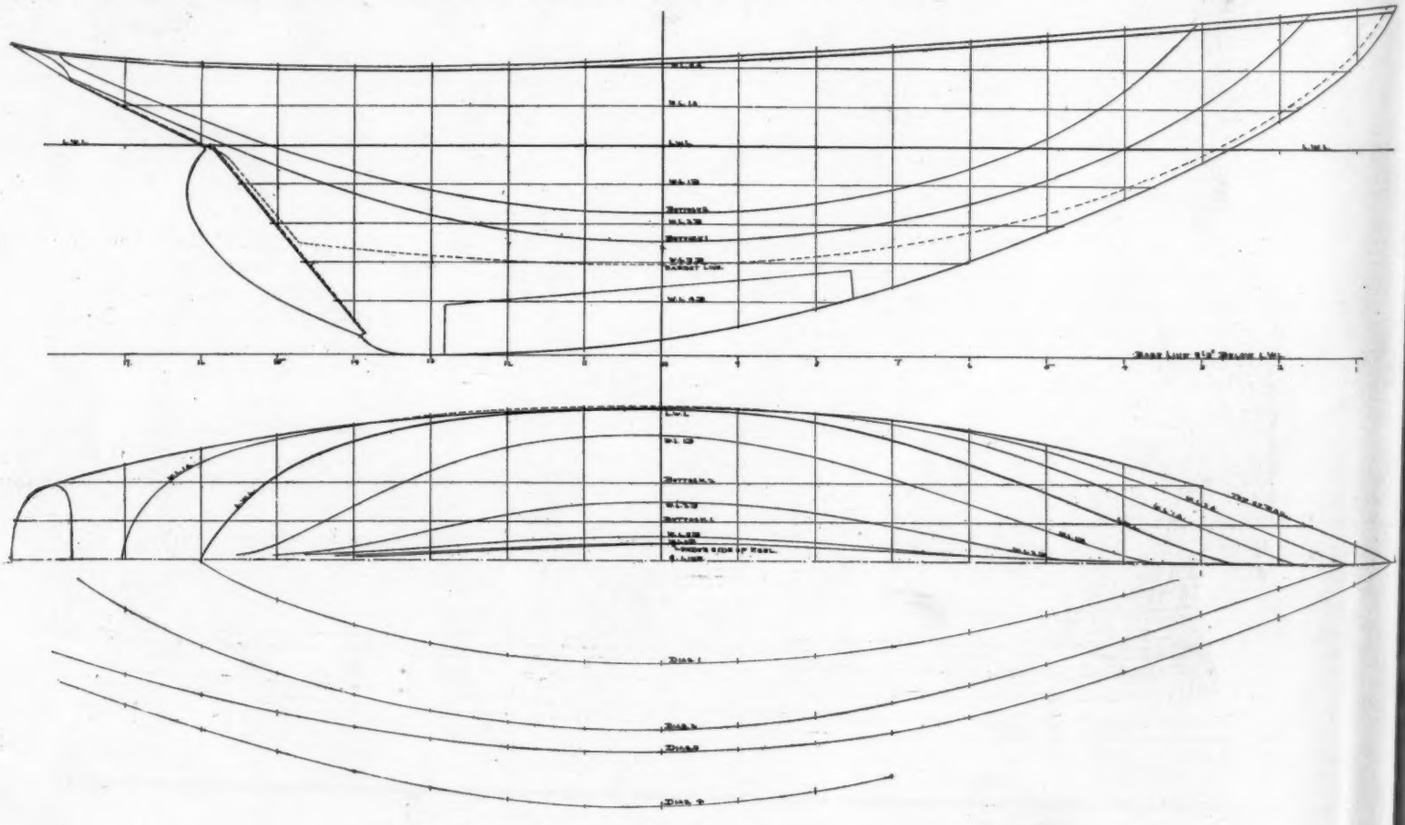


The design shows a most wholesome type of boat, with a long keel and hard bilge with fairly heavy displacement. To insure ease in a seaway, one-third of the ballast has been placed inside. Forward and aft the load waterline is quite fine, but the deck line is quite full, in order to make the boat dry in rough water.

Just aft of the mizzen mast is the steersman's cockpit, 5 feet 8 inches long, the after portion of which is given up to the box containing the steering gear. Between the mizzen mast and the main companion is a raised trunk, 5 feet 6 inches long, with two port lights on each side, giving headroom in the after-cabin. Forward of this is the companionway leading down into the main saloon, and forward of this two skylights, one over the main saloon and one over the galley. There is also a companion giving access to the forecastle. Below decks there is a surprising amount of room. Aft of the main companionway is a double stateroom, 7 feet 9 inches long, with two berths, one on each side, with hanging space for clothes between them and the forward bulkhead of the cabin. In the center, aft, there is a bureau with a settee in front. This cabin has 6 feet 4 inches headroom, obtained, as previously mentioned, by means of the house on deck.

Forward of the after cabin is a passage on the port side leading to the main saloon. On the port side of this passage are a large locker with drawers underneath and a hanging closet. On the starboard side is a toilet room, which may be entered from either the passage or the cabin. In addition to the storage space already mentioned, additional hanging space is furnished by utilizing what would otherwise be waste room under the main companion stairs.

The main saloon, 8 feet in length, has two extension transoms

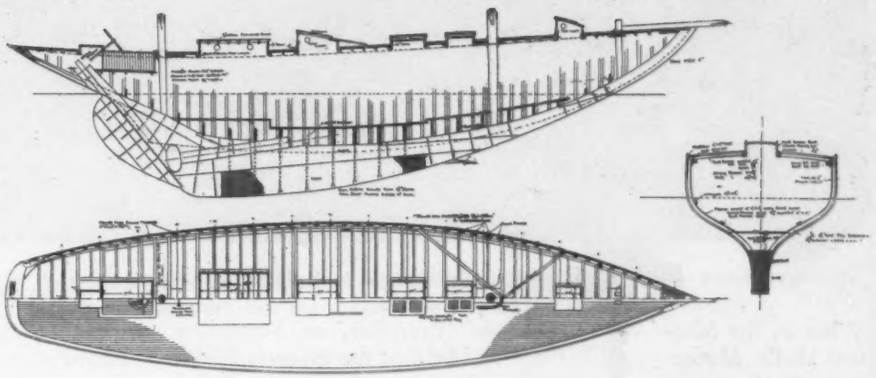


and two fixed bunks, also lockers and sideboards at the forward end. At the after end of the starboard side there is a wide, shallow closet entered by doors over the bunk and berth.

A door in the forward saloon bulkhead gives entrance to the galley, 5 feet long. The galley has a large ice box well insulated on the starboard side, with a dish locker forward. On the port side is a six-hole coal range, pump and sink, with a shelved locker back of it.

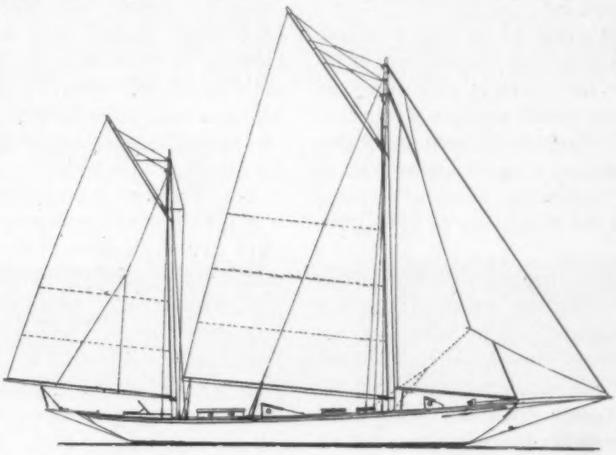
The size of this galley compares favorably with the cook's domain on craft much larger than this 40-footer.

Forward of the galley is the forecastle, with two pipe berths for the cook and a paid hand.



The boat is bored for an auxiliary engine, which could, if desired, be placed under the companion stairs. By installing the engine in this location, a fairly level line of shaft could be obtained and the engine itself occupy no otherwise desirable space.

Furnishing, as she does, comfortable sleeping accommodations for a party of six, and also plenty of storage space and a really generous amount of galley room, combined with ability to stand rough weather, she represents a particularly desirable class of cruiser. Her sail area is, moreover, so arranged as to make the handling of her canvas an easy matter with a small crew, an item not to be overlooked if one is to obtain the greatest amount of service from his craft during the season without being dependent upon friends whose time may be limited for cruising.



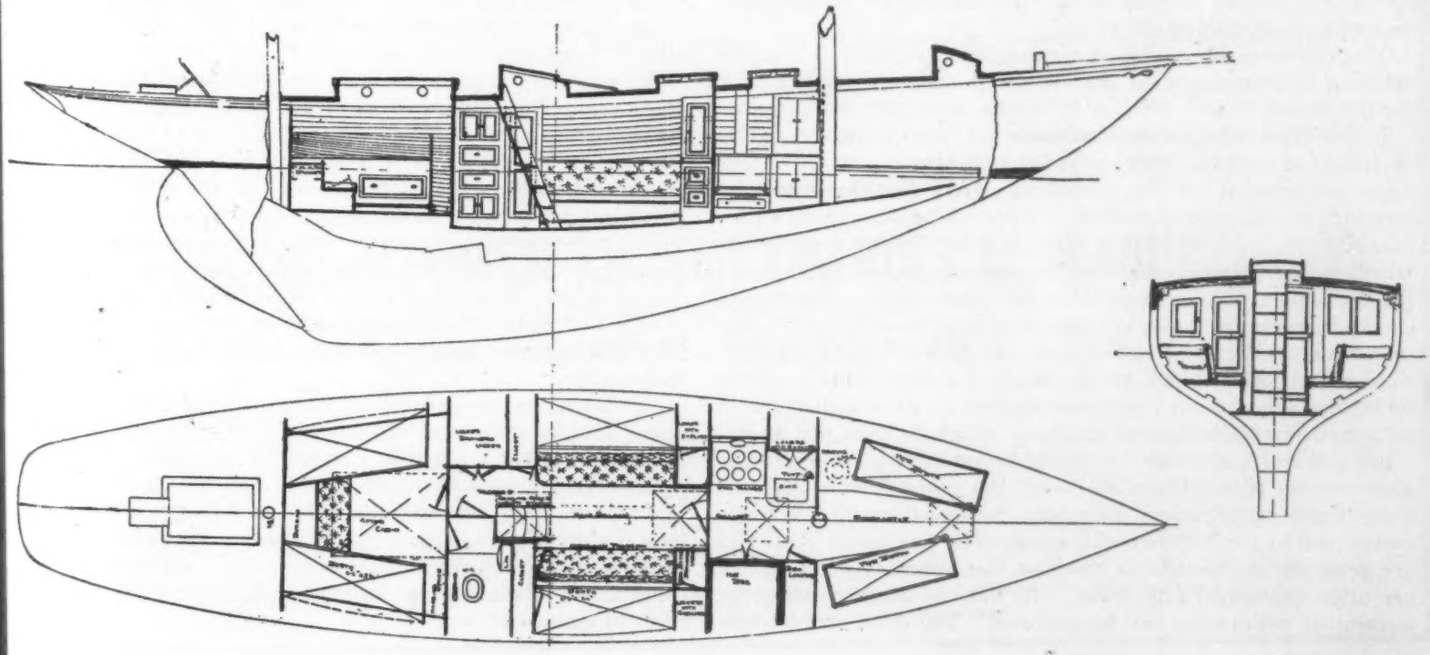
Bids were obtained from several builders, and it was found that the boat can be built for about $6,000, with lead ballast, teak deck fittings, white pine deck, and everything compatible with a first-class job.

The principal dimensions are as follows: Length over all, 55 feet; length waterline, 40 feet; beam, 12 feet; draught, 8 feet; ballast, outside, 7 tons; ballast, inside, 3 tons; sail area, 1,500 square feet; least headroom, 6 feet.

She is a wholesome little ship, with plenty of deck room and enough draught to allow her to eat up to windward and hang on well in a hard sea. She is also sharp enough forward to reduce pounding in a seaway to a minimum, and her stern should make her an easy boat in a following sea. The deckhouse, companions and skylights provide an amount of light and ventilation equal to that which can be obtained from a long cabin trunk, without, as an examination of her construction plan will show, the cutting away of deck timbers and a consequent weakening of the hull.

She is large enough to really live in, and yet small enough to make the handling of her a real pleasure to a Corinthian owner. With the motor installed as arranged for, she would be able to pick her way in and out of narrow, winding channels and waterways, and allow her skipper to regard a flat calm with a considerable degree of good-natured indifference.

A boat of this type would probably be at its best in rather heavy weather, during a spell of which she could keep right along, while more liberally canvased craft would require all hands and the cook to handle the reefing gear. Rigged as a yawl, she would probably prove somewhat faster, without making her much heavier to handle.



EDITORIAL

Published by the Yachting Publishing Co.; Oswald Garrison Villard, President; Herbert L. Stone, Secretary and Treasurer

What is the Matter With Motor-Boat Racing?

In the latter part of September there was held on the Hudson River, at New York, a motor boat carnival that was national in its scope, consisting of three days of racing in all classes under the auspices of the National Association of Boat and Engine Manufacturers. The races were a success, inasmuch as there was a large entry list, nearly all the fast boats of the East except Dixie being there; they were well contested, barring the fact that the flotsam and jetsam of the Hudson played "hob" with the speed boats; were well managed; the prizes were attractive, and the event aroused a satisfying interest in the participants—and in possibly twenty other people. And there is where the rub is!

Why shouldn't the chief motor boat event of an entire section arouse enough general interest, in a boat-loving community, to attract boat lovers to the course; and, in fact, even attract more entries than were actually received? If the public interest is reflected by the newspaper space an event gets, it must have been small, for the actual races were lucky when they got a scant paragraph in the daily press. Here is what a correspondent from a Western newspaper, who was sent on to report the event, has to say of the interest displayed:

"Nobody but the judges and a few real sharks go to motor boat races on the Hudson. At Poughkeepsie on Wednesday there were not a dozen men at the Poughkeepsie Yacht Club to see the turn of the 115-mile grind, and these dozen men knew little of the race itself. Most of them knew that Mr. Traver was racing, or was expected to race, and that was all they did know. The next day on the judges' boat off 158th Street, on the Hudson, at New York, but twenty or thirty men occupied the beautiful starting craft. On the shore nearby there were probably twenty or thirty spectators—loafers who lay in the sunshine, merely because they seemed to have nothing else to do."

Much as we dislike to own it, we must confess that this is pretty nearly a bald statement of the facts, and we might as well look for the reason.

In the West, where they sometimes get from 30,000 to 50,000 spectators at a regatta, they say the trouble here is with the rating rules; and some of our own people are equally sure that this is responsible for the lack of interest. Nobody wants to watch a race in which the last boat in may turn up the winner, no matter whether that boat only has a 50-horsepower motor and is competing against 200-horsepower in the other craft. The public cannot be expected to take cognizance of this, however interesting to a naval architect. Neither does an owner with a boat of small power feel that he is getting much of a show when he stacks up against a boat with four times the power, even with the help of a mathematically figured handicap which he does not understand and which can only be figured by an expert. The present measurement rules, although scientifically correct, with, perhaps, some slight modifications suggested by actual results, are not understood by the majority of the owners of fast motor boats and are generally distrusted—so much so that the measurer's figures are often questioned afterwards. As long as this is so no great amount of enthusiasm can be expected. The only real interest comes in racing boat against boat, as is proved by the necessity of offering time prizes in most events—which are probably more valued by the competitors than the actual first prize.

We believe that the welfare of motor boating, as well as of sailing, is promoted by races. There would be fewer clubs and less boats, while a season would lose most of its interest were it not for the regattas; and this being so, is it not possible to evolve racing rules that would attract men to the racing game and hold the interest of the spectators?

In the West they now race on over-all length alone, with no restrictions as to power or displacement, or rather lack of it. This, of course, puts a premium on the boat whose owner can afford unlimited power, and, we believe, should be modified somewhat. One-design classes have been tried with fair success, but here the element of individual design is omitted. Cannot a sane, moderately restricted series of classes be formed, or cannot simpler measurement rules be evolved for power boats which the average owner could grasp and understand fully the elements which enter into a contest in which he would like to participate?

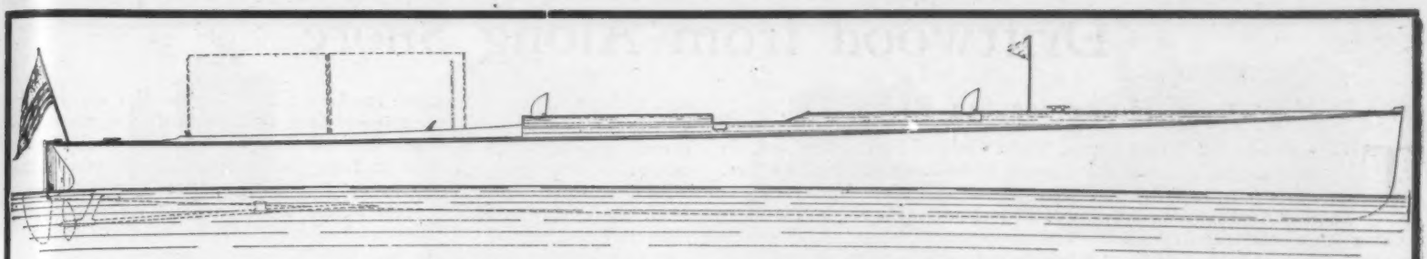
The National Association is to be congratulated on the showing it made in its recent regatta, but under different conditions we believe that the future events it conducts would make this one pale as the stars before the rising sun.

Build Now for 1911.

Advance information has come to hand making it practically an assured fact that we shall receive a challenge from England for a race for the British International Trophy next year. In addition to this knowledge, we have the lesson of the last International Race fresh in our minds, and not only know the disastrous failure we made towards getting new boats for this event, but we also know something of the probable speed which we shall have to equal if we want to keep the coveted trophy.

We also have information that the phenomenal burst of speed of Pioneer will be exceeded next year. According to British estimates, higher speed has been obtained in some of their craft than was shown by the boats sent to this country for the trophy. Zigorella had been beaten before leaving the other side, while Mapleleaf had never demonstrated great ability; whereas a number of hydroplanes are credited with over 40 miles, and there is strong probability that one of their boats next year will be close to a 45-miler. This means that, if we are going to have anything qualified to meet this class of boats, we must get busy at once. Give the designer and the boat and engine builder a chance to make good.

Mr. Burnham, we understand, has already placed an order for a new boat, and if anyone else has any idea of trying for a "look-in" as a defender, it behooves him not to lose a day. As we have said so often, boats and engines of this class cannot be turned out in a few months' time, and the better part of a year is none too long if one expects to have a boat at the line in any kind of shape. If the lesson of this year's elimination races is taken to heart, our chagrin over them may be forgotten. Let's profit by our omissions of the past!



Outboard profile of "Tartar," the 60-foot speed boat, designed and built by the Gas Engine & Power Co. and Chas. L. Seabury & Co., Consolidated, for Mr. Ralph E. Slavin, and equipped with two six-cylinder 8' x 8' Speedway Engines.

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Her speed was the least of her good points, for many of our builders and designers, given carte blanche, may be depended upon to turn out fast freaks.

But that a speed craft, as fast as Tartar, should be a real boat, handling like a little runabout, running on her lines without fuss or squatting, and allowing her occupants to remain dry and comfortable without raincoats, was something which evoked the admiration and wonder of all who beheld her performance in the Motor Boat Carnival held on the Hudson in September

We believe in fast boats, but we also believe that a fast boat which may be enjoyed **as a boat** which glides along on her keel, instead of skating on her transom through a shower of spray is something that speed-loving boat owners will appreciate.

This photograph of "Tartar" going at 33.978 miles per hour, shows her running smoothly as a cruiser and the total absence of squatting, fuss and spray.

For these we are prepared to design and build swift craft in various lengths that possess speed, seaworthiness and real comfort.

Designing and building, as we do both hull and engine, we are prepared to shoulder the entire responsibility for the boat's performance.

If you want to realize, to the fullest extent, the pleasure of carrying your guests faster than they ever before traveled on the water, and bringing them back to the float dry and unafraid let us talk over the new boat for 1911.

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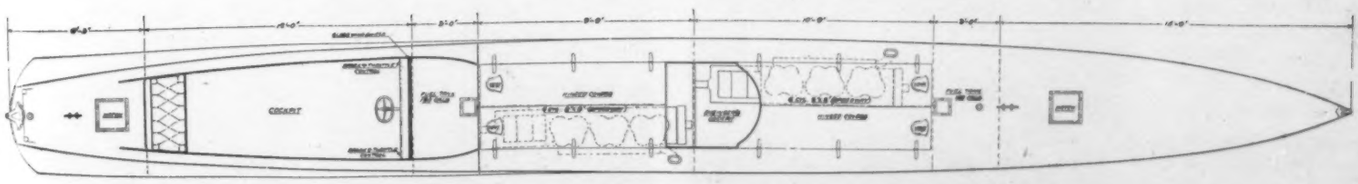


Accomodation plan of "Tartar," showing the centralization of weights of engines and fuel tanks and the comfortable provision for owner and guests.

Driftwood from Along Shore

A New Club House for San Pedro, Cal.

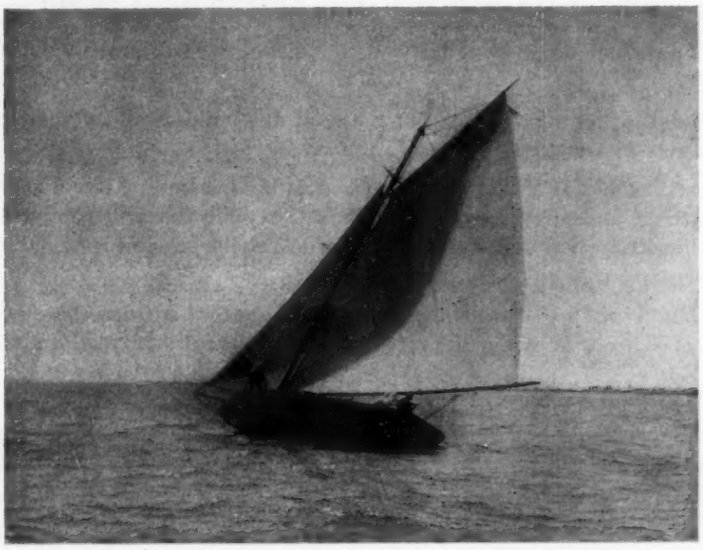
THE plan adopted by the Sunset Yacht Club, of San Pedro, Cal., in regard to getting round the expense of building a new club house, will probably be followed in many localities. Mutual advantage is a modern magician. There was an inchoate mass of yacht owners looking for a habitation and a name without expense. There was a genius in charge of a millionaire's hotel who divined that a couple of hundred yachtsmen might be a good thing on the side. At a meeting he said: "I don't see why you fellows should be worrying about the expense of a club house when this immense Virginia Hotel overlooks your racing course. Why not have your meetings here, where the secretary could be supplied with ink free of charge? The world's championships are played on our tennis courts, and our billiard tables are comparatively free from lumps, and my idea is that you should make your headquarters with us, taking your meals at about the prices you would pay in your own club. What's more, we will give a cup to be raced for which any man would be glad to take home. This is simply mutual advantage, gentlemen, and there are no favors on either side."

This was too good an offer to be sneezed at. Alexander J. Mitchell went into that meeting nothing but a poor, struggling millionaire, and he came out a real yacht commodore, his chest high with honors, and the Sunset Yacht Club went into commission that very night. The question as to personal liability on a $10,000 club house had been removed, and the internal pressures on several bottles were eased off to typify the sense of relief. The club immediately went to work on its own locker houses and dressing rooms; the same being built at an inlet further up the beach, so that members could make their changes beside the anchorages of their yachts.

Now, this could be done in fifty localities as well as in one, and after a three months' trial I can say that everybody is satisfied. For a very long time the question of meals has been a difficulty among yacht clubs which are removed from cities, and the superlative advantage of the local arrangement is that the meals are going in the hotel whether the yachtsmen are there or not. Moreover, because Long Beach is a watering place, both winter and summer, with the bathing continuing the year round, and as the yachting also continues, with the racing of the small fry and the cruising, there will be open house all the time and no closed season.

Those who profited by the natural genius of a hotel man were also favored by the Lady of the Wheel in regard to the anchorages. It just happened that they were able to buy a lot for the locker houses that was close to their anchorage, and this was more of a *sine qua non* than the good offer of the hotel people. The difficulty of combining a safe anchorage, with easy access to the sea, has been a local bugbear for many years. The inner harbor of Wilmington has been rapidly lined by lumber companies, railways, ship wharves and oil companies, and to relieve this congestion a company opened at Long Beach, 4 miles off, where they filled in 50 acres of marshland and cut their own channel through a strip of sand, dredging out to the deep waters of the ocean. The channel is protected by long stone breakwaters, and has 25 feet of water at low tide. Without this there would have been no sunrise for the Sunset Club, and the old necessity of sailing 2 miles before emerging into the open water was removed. This good arrangement was on the proposal of Joseph T. Pugh, whose love for racing caused him to build two top-notch boats, both of William Gardner's designs, the Monsoon and the 60-footer Map-Pe, which was recently built by the Fulton Marine Construction Company.

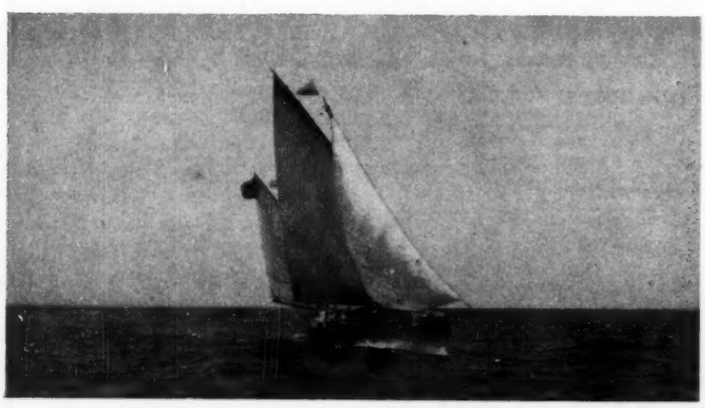
Because the requirements of public improvements in this neighborhood sometimes changes the whole landscape, the building of an expensive club house is apt to cause great loss and disappointment. An older club got together a $10,000 property on the outer harbor some years ago, and is now being left far inland by a filling-in for steamship wharves. When these are completed this club will be over a mile from the anchorage of its yachts. But the Sunset members are whirled direct to their anchorages, and the advantage of being able to get out to sea within an hour after leaving the Los Angeles office is filling the new institution with members.



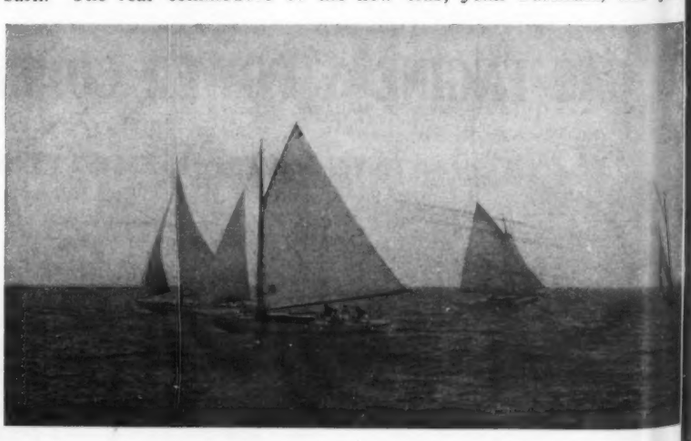
MISCHIEF I, OF THE SUNSET YACHT CLUB.

The club has numerous trophies to be raced for, among them Commodore Mitchell's handsome cup. The start, finish and the whole triangular course are directly in front of the club headquarters. Not even the ancient and honorable Cowes, with its castle of the Royal Yacht Squadron, can provide spectators with so fine a view of a yachting contest. And because women really care very little about the yachts, but a great deal about the environments, the first really large attendance at any yacht race of this vicinity was scored up to the credit of the Sunsets when the Virginia Cup was raced for. On that day Commodore Mitchell secured the Virginia trophy with his Columbine. This slippery racer was designed by Charles Fulton, and built by the Fulton Marine Construction Company. She is now the flagship of the Sunset Yacht Club. In the purchase of the first Mischief, the power yacht Lady Margaret, and in the building of the Columbine, Mr. Mitchell has done much to assist sport in this neighborhood.

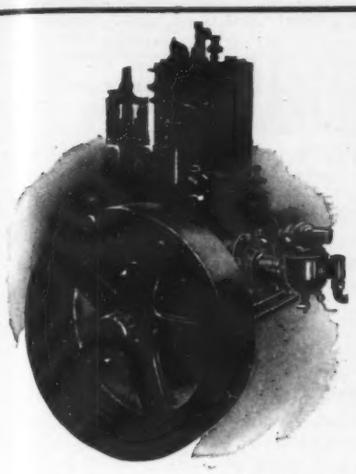
Vice-Commodore J. W. Patterson is the English owner of the yawl Enchantress, a comfortable cruiser, that has the merit of being able to keep the sea when the wind is blowing the shingles off the lee side of the barn. The rear commodore of the new club, John Farnham, has just

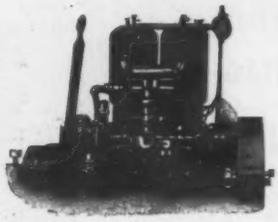
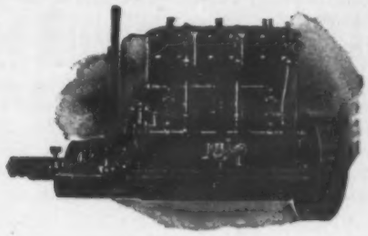


AUXILIARY CRUISING YAWL DIANA, OF THE SUNSET YACHT CLUB.



WAITING FOR THE GUN, VIRGINIA CUP RACE.



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TANKS MADE

New York, Oct. 8th *1910.*

J. S. BRETZ COMPANY,
Times Building,
New York City.

It gives us pleasure to submit the following showing the result of using the "U. & H." Master Magneto on "Yankee II" this past season.

"Yankee II" is a 27 ton auxiliary fitted with a 24-30 4-cylinder, four cycle, and is a heavy boat.

The early part of the season she was run on batteries, the engine turning up four hundred and fifty R.P.M., giving a speed of 8½ miles per hour, and used batteries up very fast.

With the "U. & H." Master Magneto the engine showed six hundred R.P.M., drove the yacht 9½ miles per hour, and reduced the consumption of gasoline decidedly.

We consider the "U. & H." the best magneto we have seen for marine use, and its general adoption for such work will, we believe, be a revelation to motor boat people.

The magneto is the simplest and most satisfactory one possible, and we will certainly recommend its use to our buyers.

Yours very truly,

POWELL COVE BOAT CO.

bought the sloop Venus, whose past is full of honorable record. She is a small Columbia, and as the Columbia failed when not sailed by Charley Barr, so the sensitive Venus must have the artist. A valuable addition to this club's fleet has just been launched for the use of the manager. This 60-footer was at first intended to race the yawl Winsome to Honolulu. Mr. Fulton built both boats, and expected to have a foeman worthy of his steel in the 2,400-mile run to Diamond Head; but when the Winsome's owner, Francis Hay, found it impossible to get away the Siwash did not enter. There was neither interest nor glory in beating the old Sweeheart or the stone-hooker from Hawaii, or the unknown Mollileu, that was merely crossing to pass into the hands of a recent purchaser in Honolulu. As soon as the Siwash was finished, Mr. Fulton put his family aboard, and provisions for a month, and disappeared for the distant islands.

The personal element in the Sunset fraternity is one to be considered. The trim figure of Clement Hebeler is only to be seen at times. For a while he owns a yacht; puts up a handsome cup for the racing, and then disappears for a long trip on a "lime-juicer"; sees his people in England, and then comes back via Bombay and Hongkong. Pretty soon he will again be bucking the ice round the Horn. He has the call of the long wash in him, and our small seas soon tire him. His chum, Joe Pugh, has not had the luck in the racing field that his good enterprise seemed to call for; but he is good stuff for outside, could be relied upon to do his trick when the sloppies were getting out their prayerbooks. Frank Hay has an arsenal of assorted firearms aboard the Winsome, perhaps for pirates, and half a ton of the newest books on the lore of the sailor, which he is going to read—some day. Commodore A. J. Mitchell is an English civil engineer and mining expert, who surveyed for a railway clear across Australia before coming to Denver.

STINSON JARVIS.

COMMODORE ALEX. J. MITCHELL, OF THE SUNSET YACHT CLUB.

Buffalo Section of the A. P. B. A.

The Buffalo Section of the American Power Boat Association was duly organized at a meeting held at the Iroquois Hotel, September 26. All the delegates from the local clubs were present. They adopted a constitution and elected the following officers: Chairman, Commodore Edward Michael, Buffalo Yacht Club; vice-chairman, Albert F. Dohn, Buffalo Launch Club; secretary, Robert H. Mason, Buffalo Yacht Club; treasurer, John F. Ellsworth, Motor Boat Club of Buffalo.

Commodore Michael, as chairman of the local section, brings to the Council of the A. P. B. A., of which he becomes a vice-president, much weight and fitly represents the 1,200 or more motor boat men in this locality. The value of such an organization is evident, as it has created a strong central body to handle all matters affecting the general welfare of the sport, which, from the very nature of things, cannot be well settled by individual clubs. The policy of the American Power Boat Association in creating various local sections in all parts of the country is to be commended as a powerful movement to secure the best interests and to equalize the divergent views which necessarily appear in widely separated portions of the United States.

From Lake Erie

After his suggestion had been discussed in the club houses for many months, Commodore Herman T. Koerner has at last been successful in bringing about the formation of a local section of the American Power Boat Association. It was arranged at a meeting held recently, at which each of the three leading organizations at Buffalo was represented by two members, and a sort of provisional government was formed to complete the work of organization.

The clubs represented at the meeting were the Buffalo Yacht Club, the Motor Boat Club of Buffalo and the Buffalo Launch Club; but it is generally understood that one or two of the other nearby clubs will join the organization.

Articles of association were drawn up and the following officers chosen: Chairman, Edward Michaels, commodore of the Buffalo Yacht Club; vice-chairman, Albert F. Dohn; secretary, Robert H. Mason, and treasurer, J. F. Ellsworth. These officers will hold over until March, when a meeting will be held for the purpose of electing new officers and appointing a governing committee, to consist of three representatives of each of the clubs which form the section.

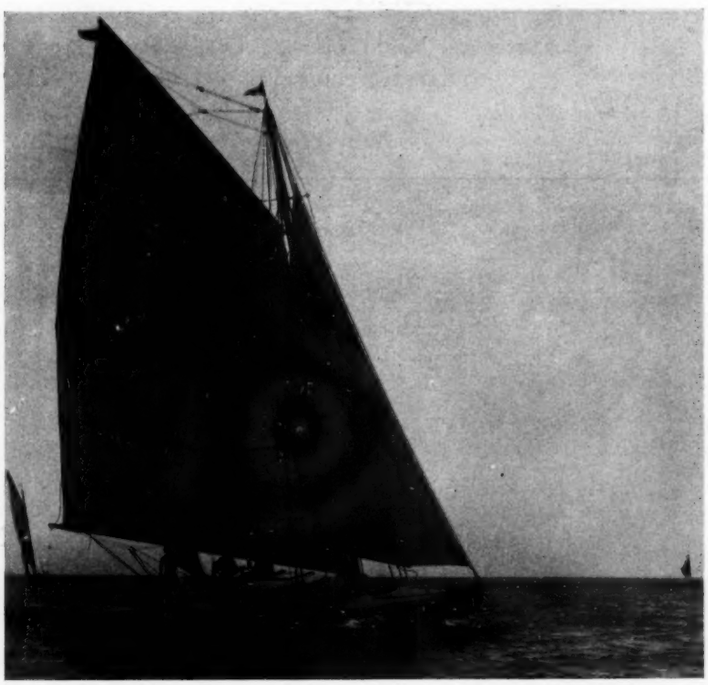
"It is not our purpose to conflict with any of the existing organizations in any way," said one of the officers. "The chief object in forming this section of the American Power Boat Association is to have a central body to which all questions may be referred, and one which will see that races are conducted with fairness and justice to all. There is a strong feeling in favor of any movement that will bring the local clubs closer together. An effort will be made to bring in any regularly organized club within 25 miles of Buffalo."

The Erie Yacht Club, Erie, Pa., has just completed its sixteenth year, and the occasion was marked by a banquet which brought together many of the prominent yachtsmen of Lake Erie. This event was followed two weeks later by the club's "land cruise." This land cruise has become an annual affair. It consists of a brisk walk around Presque Isle Peninsula, a distance of about 8 miles, and even the veranda sailors enjoy it.

The annual "harvest home" festival of the Buffalo Launch Club was a great success. Commodore and Mrs. Fred. Fenster were the hosts, and it marked the end of the club's summer social season, except for the stag smoker, which was held October 8. The trip down the river was made on a chartered steamer and in motor boats. Each of the guests wore some kind of a "rube" costume, and rural decorations, such as pumpkins, corn and the like, were in evidence. The entertainment consisted of a supper followed by dancing.

It was a great disappointment that cold weather spoiled the gymkhana of the Motor Boat Club, which was to have taken place on Motor Island, Saturday, October 9, as the final event of the out-of-doors season. The scheduled events included many interesting contests, among them a motor boat race for boats driven by ladies, but on account of the slim attendance the programme was cut down to shooting and tennis.

C. B. MCCUAIG.



THE FLAGSHIP COLUMBINE OF THE SUNSET Y. C., OWNED BY ALEX. J. MITCHELL.

Championship Records of the Yacht Racing Association of Long Island Sound

Below will be found the championship record of the yachts racing in the various classes of the association this season, with the standing of those boats that qualified. In order to qualify a yacht must start in at least one-half of the races given for her class, this number being ten:

Class P.—Cara Mia, 77.7 per cent, winner; Windward, 69.2 per cent. Mimosa III, Armorita, Bonita, More Joy, Red Rover, Alyce, Coquette, Sagola, Dolly, Amoret and Mavourneen also raced but did not qualify.

New York Yacht Club—One-

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just issued, the largest and most complete up-to-date line of Marine Hardware ever issued. We will also mail this mammoth catalog to anybody interested in Motor Boat Supplies on receipt of 20c. to cover postage.

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"The Little Brown Box"

Eagle Marine Engines for 1911

OUR REALIZATION

ANNOUNCEMENT

For eleven years we have had in mind conditions such as we are now privileged to announce. That is, a factory so complete both in machinery and equipment that would place us in an independent position from all outside considerations.

For eleven years we have built and supplied Marine Engines of such high quality, that regardless of our efforts to meet the demand we have each year been obliged to disappoint our agents on deliveries. During the season of 1909 at which time we placed our new line of engines on the market, we tripled our capacity and now at the end of the 1910 season, we find the same condition of shortage. To-day we are under full headway for 1911 as our agents are demanding "Eagle Engines" and then more "Eagle Engines."

OUR NEW FACTORY

It is with pleasure we announce the opening of our immense new factory with a capital of $1,500,000, at 98 Warren Street, Newark, N. J., fitted with the most modern automatic machinery, (many of which have been constructed from designs of our own engineers, and the like of which cannot be found even in the most up-to-date automobile factories). This will enable us to build engines for marine service of such accuracy and interchangeability such as the Public has never imagined possible.

In acquiring this new home we have installed one of the finest and most complete foundries to be found anywhere, this feature facilitates our work, makes us independent of outside delays, and enables us to maintain a standard in material which we have always desired. We have also installed a complete set of ovens for baking the enamel finish on our engines, which for years has been one of their distinctive marks of elegance.

This new factory is the realization of years of planning. We have dreamed of a factory for the housing of our engine business, such as we now possess. We have planned to use just such wonderful machinery and to utilize our perfect organization in the manufacture and sale of Eagle Engines, and to think this period is now at hand, that our anticipations are now realities, and that these facilities and conditions will enable us to benefit all users of marine engines, we assure you the penning of these lines is an exceptional event in our career.

"EAGLES" ONLY

The public as well as our agents must appreciate the value of our copyright name "Eagle" as applying to marine engines. We have never failed to supply parts for an engine bearing this name even though at times such parts have cost us many times more than the sale price. Our policy is to care for our customers. Eagle engines have never been sold under any other name; from year to year they remain "Eagles" for the reason that our machines are such that we do not fear the man to whom we have once sold an engine. We want our customers to remain our friends, and any demand in reason will keep them so, as far as we are concerned. You are not required to purchase engines under the name "Eagle" this year and a new name the next. They always remain "Eagles" and we are zealous of the name and reputation. Each year we endeavor to advance our engines in the newer and finer details of fittings and construction. This principle enables us to state to-day that we are so far in advance in two-cycle marine construction that it will require a colossal effort to even meet such Quality and Competition as we will offer for 1911.

ABILITY and INTEGRITY

No Institution rises above the individuality and character of its owners, and it is becoming more and more important for a purchaser to know what kind of ability and integrity are back of his engine. It is needless to say that Eagle Engines have for eleven years represented all that is desirable in engines of the marine type especially as regards Quality, Finish, Efficiency and Durability.

For the first time in the history of the marine engine business one is enabled to purchase an engine constructed by the highest class of engineering ability, including material such as has never before been supplied, and an equipment that has set a standard at a competitive price. We are giving you more for your money in the Eagle line of engines and equipment than it is possible to procure elsewhere. While we insist on quality, this does not infer that we aim to waste money in shams. Our engines are just as elegant on the inside to the eye of the finished mechanic as they are to the observing public from the outside. To sum it all up, the Beauty of Eagle Marine Engines is in their simple Elegance, Harmony of proportion, Excellence of Material, and Equipments.

QUALITY IS NOT PATENTABLE

No manufacturer controls it. Style, workmanship, material and finish, however, are matters of *intuition, training, taste* and *experience*. Our aims are high, our facilities for manufacturing of the best, our trained craftsmen are at our command to interpret our wishes relative to the standard we desire to maintain.

EQUIPMENTS

Price of Equipment Depending Upon Outfit Is a Rare Delusion

You should realize that where you are quoted on equipments with variation of price from twelve to forty dollars, depending on what the offer is, that in order to secure what we supply as a regular equipment, it will be safe for you to figure that if you want a salt-water outfit and high-grade equipment you will be charged the long price, and after the long price you will find that you still lack such an equipment as the Eagle Company supplies regularly with each and every engine of their manufacture. We are not only setting a standard on engines but also on equipments, and you should inform yourself particularly as to just what you are getting by being charged extra compared to what we supply as a regular outfit.

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Secure a copy of our new catalog, it is free merely for the asking, and really it is worth your time to make the request. You will find a great amount of information that will interest you, and take our word that it is nicely printed and handsomely illustrated. Our Handsome Illustrated Catalog Mailed Free Upon Request.

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EAGLE MARINE ENGINES—DURABLE—SIMPLE—EFFICIENT

Design Class.—Alera, 77.6 per cent, winner; Phryne, 71.2 per cent; Nepsi, 67.1 per cent; Caprice, 60.2 per cent; Rowdy, 43.8 per cent; Darhinda, 32.8 per cent. Ibis, Juanita, Nautilus and Carmela did not qualify.

Manhasset Bay—One-Design 20-Footers.—Ardette, 68.7 per cent, winner; Scylla, 66.6 per cent. Althea, Mohoska and Kit did not qualify.

Larchmont—Inter-Club Class.—Lewanna, 68.3 per cent, winner; Dagmar, 63.6 per cent; Hamburg II, 59.5 per cent; Triton, 58.3 per cent; Yukan, 51.2 per cent. Festina, Como, Wild Thyme, Babette and Salas did not qualify.

Larchmont—21-Foot Class.—Iola, 69.2 per cent, winner; Houri, 65.3 per cent.

American Raceabout Class.—Rascal, 80.9 per cent, winner. Chephora, Maryola and Howdy did not qualify.

Manhasset "Bugs."—Big Bug, 79.7 per cent, winner; Iney, 68.4 per cent; Mayfly, 41.2 per cent. Dragon Fly, Skeeter, Wasp, June Bug, Rose Bug and Red Bug did not qualify.

Class S.—Nereid, 88.8 per cent, winner. Midget, Osprey, Drena and Alpha did not qualify.

Class R.—Hoyden, 86.4 per cent, winner; Hamburg, 35.6 per cent. Wacuntah, Ogewah and Virginia did not qualify. No other classes qualified.

WATER FRONT AND ANCHORAGE OF THE DU BOIS HOMESTEAD ON CATSKILL CREEK.

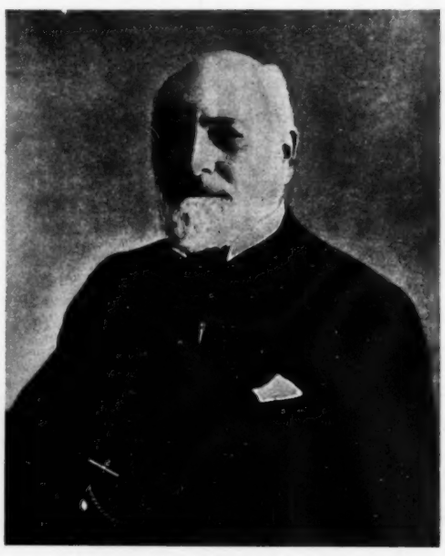
A Snug Berth on the Upper Hudson

Undoubtedly many motor boat owners who have made the cruise to Albany will recognize in the picture published herewith a sheltered anchorage at Catskill where they have tied up for the night, or perhaps, if they were fortunate, for the day as well, and have left with keen regret and due appreciation of the man who not only allows the vagrant cruiser to make use of his private place but provides facilities for mooring and using the bulkhead that protects his land. In contrast to the exclusiveness of most owners of estates near the water, the hospitality of Mr. F. N. Du Bois, of Catskill, N. Y., to every yachtsman who voyages that way is a delightful surprise.

On the south side of Catskill Creek, where it flows into the Hudson, stands the old Du Bois homestead, with its gardens and lawns sloping down to the creek, where, along a sort of natural basin, a bulkhead has been built. Along this bulkhead is a fine anchorage, out of the wash of the river traffic, and anchors can be dropped and stern lines carried ashore to the bulkhead, while close at hand is a float and runway leading up to the house, where you may be sure of a welcome from the genial owner, who, while not a boat owner himself, says to those that come that way: "You are welcome to the anchorage and the grounds without restriction—only remember that they are mine."

Here water tanks may be filled from a grand old well that has furnished thirsty people with the purest of drinking water for 200 years. Nearby is the village of Catskill, with stores where supplies may be laid in and the ice-box filled from the ice houses along the river, and a stay of a few days will amply repay the cruiser who is not pressed for time by the beautiful scenery which the roads leading up into the mountains unfold and along the shores of the quiet river or creek. Gasolene may also be procured at the town itself.

The Du Bois homestead is part of a large estate acquired by patent from the English Governor of New York in the year 1686, and which was purchased by the ancestor of the Du Bois family in the year 1728, and whose descendants have owned and occupied it for the past 180 years during five generations.



MR. F. N. DU BOIS ALWAYS HAS A WELCOME FOR THE MOTOR BOAT CRUISER.

Regatta of the Jackson Park Yacht Club

On Saturday, September 10, the Jackson Park Yacht Club held its third annual open regatta. In the morning the wind was very light, and the probabilities of a good breeze looked poor. These conditions lasted until just before the starting time, so that several boats coming from down-town could not make the line in time, and the start was postponed for thirty minutes. Finally, when the starting gun went off there was an 8-mile breeze from the southeast, making the first leg of the 9-mile triangle a dead beat.

The race, which was sailed under Seawanhaka rules, was very interesting from a spectator's standpoint, but quite the contrary to the contestants, as they all wanted to see a good breeze. In results the unexpected happened, a number of the heavy-weather craft winning firsts in their respective classes, as they saw a better breeze in the south and took advantage of it by making the first leg in two long tacks instead of a number of short ones as the rest did. The boats that were helped by this were the Columbia, Mildred, La Rita and Illinois. The Illinois, skippered by her owner, Roy Barcal, sailed a beautiful race from start to finish, winning the time prize and possession of the Cloarec Cup for 35-footers for one year. The Susan II got into a luffing match with the Invader, the looked-for winner of the time prize, and spoiled the chances of both. However, the Susan II carried away the Bennett Cup, which was some consolation. Wenonah, the husky little 20-footer, somehow or other did not come in on the time honors. Just why is not known, but at any rate her skipper did not stand around telling the rocking-chair fleet the whys and wherefores.

The race was followed by a Venetian Night in the harbor, where the prizes were presented. Winners, 20-foot class, Wenonah; 25-foot class, Mildred; 30-foot sloops, La Rita; 21-foot cabin, Columbia; 21-foot raceabout, Invader; 35-foot sloops, Illinois; 35-foot yawls, Jungfrau; 25-foot yawls, Mudhen.

Pixy Won Larchmont Series

In the table of results at Larchmont Race Week, published in our September issue, a misprint gave Pixy two firsts, one second and two thirds in Manhasset Bay knockabout class. This should have been four firsts and one second for Pixy, owned by L. F. Eggers.

Walloon Yacht Club

The Walloon Yacht Club's season was formally closed early in September after a very successful season. The club is growing in a most satisfactory manner, some ninety-eight members now being enrolled, most of whom take an active interest in the numerous regattas of the club, the rocking-chair fleet being decidedly in the minority.

The championship pennants and cups in each class were awarded to the following:

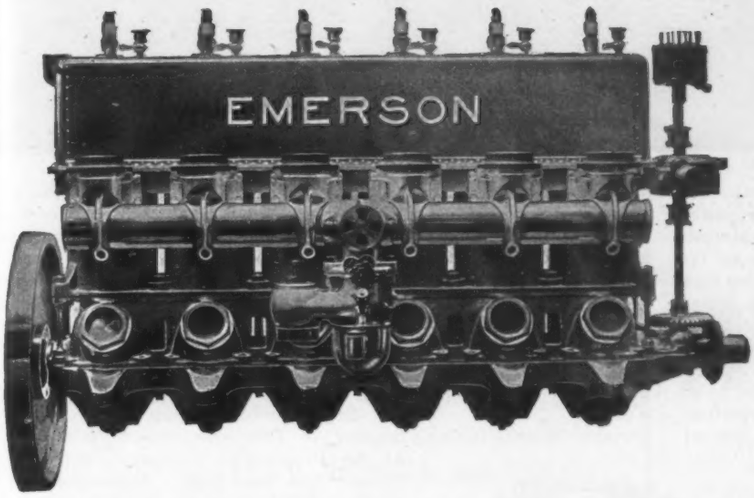
Class A.—Sinbad, Commodore F. C. Adams.
Class B.—The Oklahoma, W. B. Johnstone.
Class C.—Hoosier, Paul Taylor.
Class D.—Lizzie, Marshall Beck.

It was a very enthusiastic gathering, held at the club house August 29, at the annual meeting, at which time the following officers were elected for the coming year:

Commodore, Fred. C. Adams; vice-commodore, Paul Taylor; secretary and treasurer, Marshall Beck.

Commodore Adams appointed Warren Cowles, Dr. S. D. Waldron and C. P. Griest as the regatta committee for the next year, which assures an exceptionally lively season.

Walloon Lake is situated in Charlevoix County, Northern Michigan, and is a popular summer resort of the Middle West. Boating on the lake is excellent.



TOO FAST FOR 'EM AT PEORIA

9 STARTS
FIRSTS
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The "Emerson," 26 ft., defeated every contestant in the 26-32 and free-for-all classes, establishing a World's Record for 26-footers in competition. Beating in each race all records of Peoria Course of Hoosier Boy, Red Wing, Red Top II, Scripps, Mascot, and all others. Winner of every race against fastest boats in the West. Also defeated the Mississippi Valley Champion 40-footer Red Top II with its 8-cylinder engine of triple the cylinder capacity. Winning 9 races in 3 days, and maintaining an average speed of nearly 30 m. p. h. over rough water and with many turns, without a miss or engine adjustment. The "Emerson" is a strong, seaworthy boat of good weight, carrying 2 heavy men and equipped with a 6-cylinder 300-pound engine, and is not a racing freak. Write for Catalogue.

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You can have a generous sample bottle of 3-in-One Oil any time you write for it.

The sample will *convince* you that 3-in-One is the one and only preparation that keeps everything about any boat, launch or sail boat, shining like new, free from rust, verdigris and tarnish, and running like clockwork.

3-in-One is positively the best preparation for cleaning and polishing every veneered and varnished surface aboard. It "chases" all scars and mars. Restores the original finish "good as new."

If it is applied to metal surfaces, neither fresh or salt water can possibly produce rust or tarnish.

Simply perfect for oiling fans, motors, delicate electrical machinery, phonographs, guns, revolvers and every kind of tool needed to keep the Yacht shipshape.

Don't lift anchor and leave 3-in-One at home. Buy at any store; 8 oz. 50c.; 3 oz. 25c.; Trial Size 10c.

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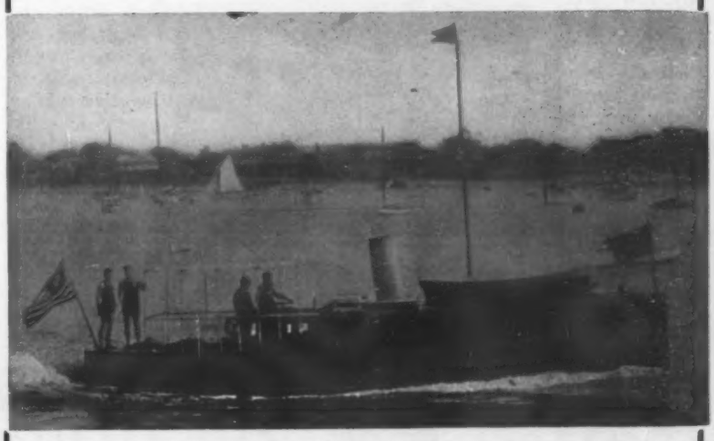


Blue Peter V again demonstrates the consistent running of the HOLMES MOTOR.

Over the International Course at Larchmont, on September 3d, covering 40 knots in half a gale, she beat **every boat** on corrected time and won hands down in her own class.

HOLMES MOTOR CO., WEST MYSTIC, CONN. Dept. 20

1 MADISON AVENUF, NEW YORK CITY

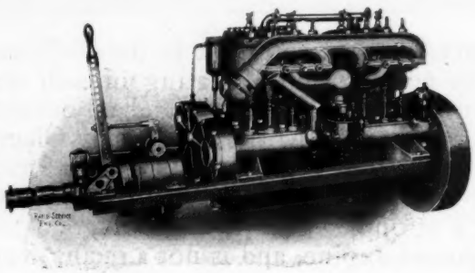
We are equipped to haul out and lay up boats up to 150 ft. Our facilities for repairing engines are of the best.

West Mystic is half-way between Boston and New York, easily reached from New London, just eleven miles.

Of Interest to the Skipper

The Buffalo Herd is Growing So successful was the new 25-horsepower Buffalo Auto-Marine, brought out the past season, that in response to an insistent demand for this type of lightweight, high-speed engine in larger power, the Buffalo Gasolene Motor Company, of Buffalo, N. Y., has decided to build this engine in six cylinders. This will add one more to the already big Buffalo line of twenty-two different engines, and will make five high-speed Buffaloes to be selected from —the present 25-horsepower Auto-Marine, a 60-horsepower engine in four cylinders, a 90-horsepower engine in six cylinders, which was the type of speed that powered the remarkably successful Hoosier Boy, and the big Buffalo eight-cylinder, 225-horsepower "V" racing engine.

The new six-cylinder Auto-Marine will be ready for early spring delivery. Its design and construction features have been thoroughly proved in the success of the 4-cylinder machine in this type, and thus the Buffalo buyers will be offered a thoroughly tried-out power proposition. It is interesting to note when the Buffalo company announced, in an informal way, that it would produce the 1910 four-cylinder Auto-Marine, more than thirty persons ordered them in blind faith in the Buffalo policy of conversation thoroughness, before the company had even a picture or a blue print to show. And already orders have been received for the new six-cylinder—two from Italy, one from "Hoosier Boy" Whitlock, one from Finland and two from Toronto.



The 4-cylinder Buffalo Auto Marine. The new engine will be practically the same machine, with two additional cylinders.

Except for minor refinements in the design the new six will practically be the present 25-Auto-Marine with two added cylinders. It will be rated at 800 revolutions per minute at 40 horsepower, which is the usual Buffalo under-rating. The master engine has not yet been built and the exact weight of the new engine is not known.

It will be 4¾ inches bore with a 5-inch stroke. Cylinders will be cast in pairs with integral water-jackets and water-jacketed exhaust, which is the regular Buffalo practice. It will have gear-driven Bosch magneto with double ignition, aluminum base, Schebler carburetor and centrifugal circulating pump of large capacity. It will have mechanical force feed lubrication throughout, with an automatic return feed from oil reservoir in the base to the lubricator. This insures a positive application of oil in just the correct quantities to every moving part, with no further attention beyond the filling of the lubricator tank. A safety overflow is provided from the high level point in the lubricator tank in the shape of a return pipe to the base reservoir, the outflow of which spills over the moving parts in the gear case. On the crank pins will be the time-tried Buffalo ring oiler system—a lubrication device for these important bearings originated by the Buffalo Gasolene Motor Company in the early years of the marine engine industry, which has held ever since as a most effective method of insuring accurate and positive lubrication to the crank pins. The reverse gear is built in as a rigid part of the engine proper, which is the practice on all Buffalo engines. It will have a specially-designed Buffalo racing clutch. A friction clutch picks up the load, and a further shove on the lever engages a positive jaw-locking device, eliminating any possibility of clutch trouble putting a Buffalo powered entry out of a race.

Stevens Twin Screwdriver.

Stevens Baby Screwdriver.

Just the Thing for Your Tool Kit To the motor boat skipper who has found his usual assortment of screwdrivers unsatisfactory when connecting up electric wiring and making coil adjustments, and the hundred and one delicate pieces of work which the electrical equipment of a motor boat calls for, the Baby and the Twin Screwdrivers manufactured by Stevens & Company, of 375 Broadway, New York City, will prove just the thing needed. These tiny little screwdrivers are made of the best grade of tempered steel and are nickel-plated, thus presenting an extremely attractive appearance.

They are just the size of the illustrations shown on this page, and are small enough for the most delicate work, and being very durable present a combination of minuteness and strength which has in the past been rather hard to find. The Twins is an improvement on the Baby, in so much as it is a combination of two sizes of screwdriver in the bulk of one.

The cost is so little that for the price of one really good cigar any reader of this department can obtain both instruments. One operation requiring the use of a small tool such as this renders their acquisition a great ecomony in time and a saver of trouble.

The Eagle Has a New Nest We take pleasure in publishing herewith an announcement received from the Progressive Manufacturing Company, of Torrington, Conn. The expansion of the Progressive Company's marine engine business is a most happly illustration of how a concern, building marine motors on a *quality* basis, has found the *quantity* part of the public demand to follow automatically.

EAGLE MARINE ENGINES

ANNOUNCEMENT

It is with pleasure that we announce the removal of the engine business of the Progressive Manufacturing Company, of Torrington, Conn., to our new plant at 98 Warren Street, Newark, N. J. The same engineering ability—in fact, our entire organization, which has been associated with the manufacture of Eagle engines for the past eleven years—will be associated with the new company. On and after this date all inquiries, orders for either engines or parts, should be mailed direct to the Eagle Company, at 98 Warren Street, Newark, N. J.

In acquiring this new plant we have installed one of the finest and most complete foundries to be found anywhere. The addition of this feature facilitates our work, makes us independent of outside delays, and enables us to maintain a standard on material which we have always desired. We will also continue to supply engines with our baked enamel finish, which for years has been one of their distinctive marks of elegance.

Our new plant, located at the above address, has a capital investment of $1,500,000. In addition to our unusual facilities which we have had in the past for building engines, our engineers have designed additional machines, special in every respect from any known machines for doing the same class and quality of work, many of them of a type which cannot be found at this time even in the most up-to-date automobile factories. This new equipment will enable us to build engines for marine service of such accuracy and interchangeability as the public has never imagined possible.

In making this transfer we shall continue the policy which we have always followed of supplying parts for all engines bearing the "Eagle" name regardless of the year in which they were built. The new equipment will enable us to greatly increase our production, which our distributors and agents realize is an important consideration, in view of the fact that, regardless of our large expansion for the manufacture of our 1910 product, we were unable at any time during the season to supply the demand which the new models brought us.

We are now under full headway for 1911, and have planned to care for a large increased output, and solicit agencies from men who have a reputation for selling engines. Don't delay in considering the agency for 1911. Now is the time to talk it over. Every agent we had in 1910 has indicated his desire to again represent us in 1911. There are reasons. Be wise and become associated with a firm which has a reputation for doing things, and doing them acceptably to the dealer as well as the user. Very truly, THE EAGLE CO.

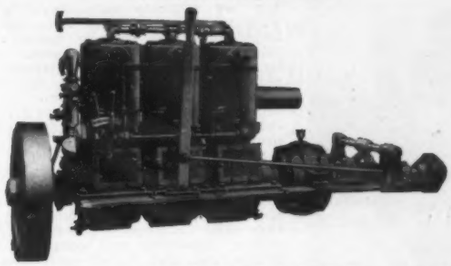
Blue Peter V to go South Announcement has been made of the sale of Blue Peter V, by the Holmes Motor Company, to J. H. Brookfield, of Larchmont, N. Y., who is to use this boat this winter in Florida waters. Blue Peter V, which was launched in the spring, came into prominence by its performance in the Marblehead race last July, when it lowered the record for that course.

KNOX 1911

3-Cylinder, 20 H. P., Latest Design

NOW READY FOR PROMPT SHIPMENT

Designed for the Cruising Launch and the Commercial Boat



The ENGINE that HAS the POWER and ENDURANCE. Read the following:

Mr. Geo. D. Campbell, of Nome, Alaska, writes us—"The last run the little 5 H. P. Knox made was a continuous one of three days and nights without shutting down or stopping the engine until the completion of the trip."

SEND FOR CATALOGUE

Camden Anchor-Rockland Machine Co.

CAMDEN, ME., U. S. A.

AGENCIES: 114 STATE STREET, BOSTON, MASS. THE BOURSE, PHILADELPHIA, PA. 14 ST. MICHAEL STREET, MOBILE, ALA.

"Regal Users Write OUR Advertisements"

"About a year ago I bought, through your agent here, Mr. S. P. Sorensen, a 16 horse-power four-cylinder Regal engine.

"I must say that it is the easiest running and cheapest engine I ever saw. I have run over 600 miles with it this summer and it has not cost me one cent in repair. I examined it carefully the other day and I found it in as good a condition as the day I received it. My boat is 32 feet long and 7 feet beam, and I can hold a speed of 10 miles an hour for ten hours straight, or longer.

"I can highly recommend your engine to any one, and will take great pleasure in showing it to them I have made two 55-mile trips and one 110-mile trip and she never missed a beat. It runs like a sewing machine. The people that were with me said it was the slickest running engine they ever saw. I am certainly pleased with it."

CAPT. THOS. HOATSON, Laurium, Mich.

REGAL GASOLINE ENGINES

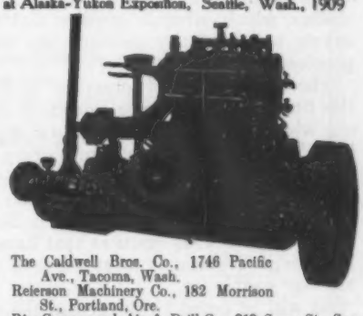
are the most economical engines in fuel consumption and maintenance because they are first properly designed and then made of the best materials by skilled men.

Regals always go.

Built for high speed or heavy duty; 1 to 4 cylinders; 3 to 45 H P. We guarantee satisfactory operation.

Send for Catalog No. 6 before you buy an engine.

Awarded Gold Medal for Exhibit of Marine Engine at Alaska-Yukon Exposition, Seattle, Wash., 1909



Regal Gasoline Engine Co.

52 West Pearl Street

Coldwater, Mich., U. S A.

Regal Engines may be seen at any of the following:

Seager Engine Works, 65 Beverly St., Boston, Mass.

Marine Equipment & Supply Co., 55 N. 7th St, Philadelphia, Pa.

Palmer & Moore Co. Inc., Reedville, Va.

A. Baldwin & Co, Ltd, Cor. Camp & Common Sts., New Orleans, La.

The Hinton Electric Co., Ltd., 911 Government St., Victoria, B. C.

The Caldwell Bros. Co.,-1014 First Ave., South, Seattle, Wash.

The Caldwell Bros. Co., 1746 Pacific Ave., Tacoma, Wash.

Reierson Machinery Co., 182 Morrison St., Portland, Ore.

Rix Compressed Air & Drill Co., 219 Spear St., San Francisco, Cal.

Rix Compressed Air & Drill Co., 120 East Third St., Los Angeles, Cal.

Dispenses with Matches

EVEREADY

VEST POCKET LIGHTER

First practical application of the wonderful PYROPHORER, a new metal recently discovered by the inventor of the Welsbach Gas Mantle and the Tungsten Lamp.

This lighter is to entirely supplant the match.

Under all conditions can be relied upon to give a light when wanted. A slight downward stroke of the thumb and the wick is ignited.

Small Size, 50c.
Large Size, 60c.

AMERICAN EVER READY CO.

304 Hudson St., NEW YORK

CHICAGO BOSTON SAN FRANCISCO

SHIPMATE RANGES

8 SIZES 11 STYLES

"Business is bad," you say. The trouble is with yourself.

Take a day off, a week off, a month, if you can.

Get out among the white caps, feel the fish bite, and the salt breezes, get hold of an appetite.

Any snug little craft that carries a Shipmate will make a sea home for you.

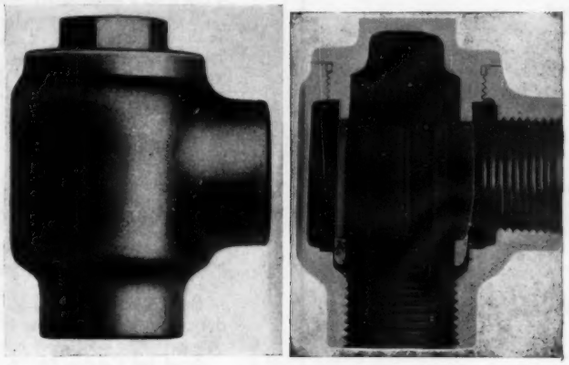
THE STAMFORD FOUNDRY COMPANY

Established 1830. STAMFORD, CONN.

For Clean Gasolene and an Unclogged Circulating Pump The Gray Motor Company have brought out two ingenious devices which will add much to the comfort of the motor boat skipper. These are the Krice Carburetor Gasolene Strainer and the New Gray Angular Water Strainer, both of which we take pleasure in illustrating in detail.

The Krice Carburetor Gasolene Strainer is a simple but effective device, which can be placed directly on any carburetor having ¼-inch standard pipe thread intake. By reference to the illustration it will be noticed that the gasolene flows into the side of the strainer coming into contact with an oval shaped fine wire screen cloth, which will repel any fine sediment, water or particles which would tend to impair the operation of the carburetor.

This carburetor strainer consists of only two parts—the body and the strainer portion, which is detachable, without the necessity of any wrench, the wing thumb nut being so placed that the strainer plug can be momentarily removed and cleaned. The wing thumb nut is fitted with a leather washer, which, when in position and firmly drawn up, absolutely prevents any loss of gasolene by leakage.



Exterior and Interior Views of the Krice Carburetor Gasolene Strainer.

The simplicity and practical utility of this little fitting is at once evidenced to anyone who has had any exasperating troubles with dirty gasolene, which is bound to result in carburetor failure. The dimension of the Krice Carburetor Strainer is but 1¾ inches high and 1½ inches wide over all. It is made entirely of bronze metal and neatly finished with a high polish.

The New Gray Angular Water Strainer for marine motors combines many advantageous features that have been worked up from experienced knowledge of what is most required in an efficient water strainer aboard a motor boat.

As will be noted by the arrow, the water enters horizontally on the side and passes into a recess which extends entirely around a cylindrical screen of very fine mesh. This screen will resist any fine particles of dirt, lint and such matter and any sediment or finer particles which can get through the screen drop into the recess formed by the inner portion of the hexagon nut below.

The strainer consists of only two members—the body and the removable plug which supports the strainer. It will be seen from the drawing that no pipe disconnections are at all necessary to quickly remove the plug for washing out the recess and removing the deposit of sediment from inside the strainer receptacle.

This strainer is applicable anywhere along the intake water piping where a wrench can be used to remove the strainer plug, and at the same time the construction of the strainer is such that it can be put in the place of a 90-degree elbow.

This strainer is made up in bronze metal and in two sizes—one ½ inch, which can be bushed to smaller sizes where order specifies, and also a size ¾ inch. These devices are so practical and, moreover, may be so easily installed that they should be found aboard every motor craft.

The Gray Motor Company, of Detroit, Mich., will furnish full particulars as to price, etc., to those of our readers who will write for same, stating that they saw the description in YACHTING.

Home Treatment for the Magneto "The true high-tension magneto, which generates its own current independently of an outside coil, is still somewhat of a mechanical mystery to motor boat users, although no longer so to motor car users," says Alex. Schwalbach, of the J. S. Bretz Company, who are the importers of the famous U. & S. Master Magnetos. "One of the most enthusiastic users of the U. & H. magneto is Mr. G. W. Stebbins, of Hague, on Lake George, N. Y., and his enthusiasm is so contagious that a number of his friends—motor boat users—on Lake George have also had their motor boats fitted with U. & H. magnetos during the past season.

"In the beginning of the season, after Mr. Stebbins had received his first magneto, he wrote us that his trial of it was a complete success in every way. The engine turned up more revolutions per minute than ever before, and ran much more smoothly than ever, and that he was able to install and time the magneto without the slightest difficulty. He also wrote us to send him some of our high-tension cable, with spring clip terminals at each end, because the wire is so much smaller and neater than any he had ever seen before, and that he desired to use it to wire up his independent battery system with.

"And now comes the interesting part of this story, which may be of interest to motor boat owners all over the world who use true high-tension magnetos; that is, magnetos having a double winding on the armature. Early in August we received the following letter from Mr. Stebbins:

> I am returning herewith my U. & H. magneto. The tale is soon told. On Wednesday my magneto was operating perfectly. That night and all day Thursday we had a series of terrific thunder storms with heavy rain. My engine and magneto are covered by a mahogany deck which is nearly, but not perfectly, water tight. Some rain got through, though not enough to rust nor injure even so sensitive things as dry batteries. I saw no evidence of any great amount of water on or near the magneto.
>
> On Friday I did not run the boat. This morning, when I tried to do so, the magneto was perfectly dead, absolutely no current being produced. I went through all the instructions in the catalogue, to no purpose. I then took the magneto off, removed the interrupter, distributer and safety spark gap with bridge, etc., and found everything in perfect condition, no dirt, no oil, and apparently no moisture. I then applied every test I know anything about, but failed to get any current at all.
>
> I made no attempt to dismount the magneto, fearing to injure it, and so am returning it to you. I earnestly beseech you to find the cause of trouble and return it to me at the earliest possible moment. Next Thursday I have an opportunity to race, and cannot do so unless I have the magneto back. In the meantime, my valuable boat is laid up in the height of the season, so I need hardly urge you more to make all possible speed in returning it.
>
> I am really heartbroken, for I was so proud of my U. & H., and have been cracking it up so tremendously that I feel chagrined enough.
>
> The mystery of it all is harassing—that it should have gone bad while standing absolutely idle, and should be so perfect and then suddenly absolutely worthless. The magnets are O. K., for they pull the armature as strongly as ever.
>
> Please let me know what the matter with it is; and now, hurry.
>
> Yours truly,
> G. W. STEBBINS.

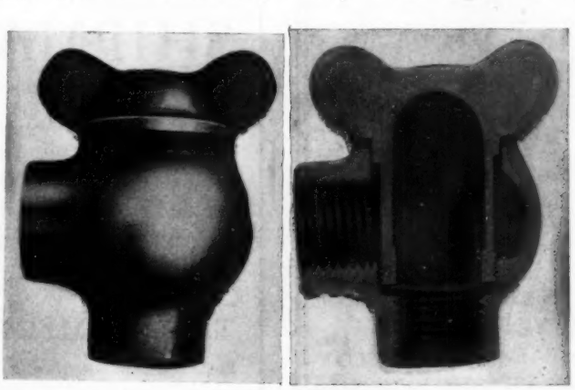
"But here is the sequel; the next day we received the following:

> Last evening, after mailing my letter to you, I found that I could not ship the magneto till Monday A.M., so I brought it up to my cottage. This A. M., in showing it to a very good gas-engine man here, he suggested drying it with artificial heat for a few hours. I therefore subjected it to a temperature of about 105 degrees Fahrenheit for four hours, when, to my delight, it gave the old familiar spark when I spun the armature. I put it back on the engine. and it ran as beautifully as ever.
>
> I am now making a rubber waterproof casing for it, which I will keep on all the time. Do you sell specially fitted ones; if so, what is the price?
>
> Regretting that I troubled you with so long a letter yesterday, I am
>
> Yours truly,
> G. W. STEBBINS.

"Since then Mr. Stebbins has paid us one dollar for a leather cover for his magneto, and writes us that the magneto continues to give perfect service."

Designer and Builder Turns Seaman Mr. L. D. Huntington, Jr., for twenty years prominently identified with yachting as a designer and builder, has given up both entirely to enter partnership with Stanley M. Seaman, under the firm name of Seaman & Huntington, operating strictly a general yacht brokerage business, with offices at 220 Broadway, New York City.

Gray Motor Company Expands About November, the Gray Motor Company, of Detroit, Mich., will start moving into their new plant, a move made necessary by the increase of their business during the past year. The plant that the Gray Company now occupies is familiar to our readers, as it has been advertised extensively as the largest and most up-to-date plant in the world devoted exclusively to the manufacture of two-cycle marine motors.



Exterior and Interior Views of the Gray Angular Water Strainer.

This move into larger quarters speaks well for the aggressiveness of the Gray Motor Company.

By concentrating their whole efforts and capital into making the best engine they know how for the money they have succeeded far beyond their fondest hopes.

The manufacturing plant will be about 1,000 feet long by 150 feet wide. Aside from this is the office building, which is 60 by 80 feet, and the testing room, which is 40 by 300 feet, giving them more than three times the space that they now have at their disposal. In these large new quarters the Gray Motor Company expect to turn out from about 1,000 to 1,200 motors, both marine and stationary types, per month.

Practical Books which every Yachtsman Should Have

WE PRINT below a list of Books on Seamanship, Navigation and the Practical Handling of Sail Boat and Gasolene Engine, which will be of much use to Yachtsmen and Boat Owners. We are prepared to furnish these Books at the Prices named. These are all Standard Works and Authorities in their line.

Epitome of Navigation—Norie	$7.00
" " —Raper	7.00
" " —Bowditch	2.25
" " —Thom	4.00
Complete Nautical Tables—Norie	4.50
Useful Tables—Bowditch	1.25
Elementary Navigation—Rosser	1.50
" " —Henderson	1.00
Handy Book of Tides—Whall	1.75
Practical Aid to the Navigator—Sturdy	2.00
Yachtsman's Guide. A simple and comprehensive work on Navigation, Seamanship, Yacht Routine, etc, with illustrations—Patterson	5.00
Lunar Tables—Rosser	3.50
Lunar and Horary Tables—Thomson	4.00
Lunar and Nautical Tables—Coleman	5.00
Ex-Meridian Altitude Tables—Towson	.50
Apparent Time at Sea—Martelli	1.75
Ex-Meridian Tables—Bairnson	2.00
How to Find the Latitude and Longitude in Cloudy Weather—Johnson	2.25
How to Find the Time at Sea in Less than a Minute—Johnson	1.25
Handbook to the United States Local Marine Board of Examinations—Patterson	2.50
Ainsley's Guide to the Local Marine Board. Examination of Masters and Mates	3.00
Ainsley's Extra Master's Guide	6.00
Reed's New Guide Book	2.50
Key to Reed's New Guide Book	1.50
Engineer's Manual—Ainsley	5.00
"Kedge Anchor"—Practical Seamanship	3.50
Bergen's Seamanship	1.50
Reed's Seamanship	1.50
Newton's Guide	3.50
" Seamanship	.75
Rosser's Navigation for Seaman	1.50
Azimuth Tables, 61° N. to 61° S.—United States Navy	1.00
" " 40° N. to 50° N.—United States Navy	.50
" " 70° N. to 88°—United States Navy	.80
" " 30° to 60°—Burdwood	2.00
" " 30° N. to 30° S.—Davis	4.75
Yacht Etiquette—Patterson	1.00
Elementary Manual for the Deviation of the Compass in Iron Ships—Evans	3.00
Deviation of the Compass—Towson	2.00
Magnetism and Deviation of the Compass—Ainsley	1.50
Compass Corrector—Ainsley	2.00
How to Find the Stars—Rosser	3.50
Revolving Planisphere—Showing the stars visible for every hour in the year, Northern Hemisphere	$1.00
Nautical Science—A new practical book on navigation—Poor	2.00
The Small Yacht; Its Management and Handling—E. A. Boardman	2.00
Planisphere—Southern Hemisphere	1.25
Law of Storms—Rosser	.75
The Aneroid, How to Use It	.25
Navigators' Pocketbook—Patterson	2.00
Sailors' Pocketbook—Bedford	3.50
The Danger Angle—Lecky	2.00
Book of Knots	1.00
Sails and Sail Making—Kipping	1.25
Masting and Rigging—Kipping	1.00
Useful Hints to Seagoing Engineers—Reed	1.50
Yachting Under American Statute—Patterson	1.50
Notes on Stowage—Hillcoat	3.50
International Code of Signals	1.25
British Code List	2.50
Flags of All Nations	.50
Light-tides of the World	3.50
How to Make a Sextant	.50
How to Run and Install Gasolene Engines—Von Culin	.50

ALMANACS

American Ephemeris and Nautical Almanac	1.25
" Nautical Almanac	.50
British Admiralty Nautical Almanac	1.25
Brown's Diary and Nautical Almanac	1.75
" Nautical Almanac	.50
Ainsley's Nautical Almanac	.50
Tide Table of the World	.50
Yachtsman's Guide and Nautical Calendar	1.00

SAILING DIRECTIONS, UNITED STATES COAST

St. Croix River to Cape Ann	.50
Cape Ann to Point Judith	.50
Point Judith to New York	.50
New York to Chesapeake Bay	.50
Chesapeake Bay and Tributaries	.50
" " to Key West	.50
Key West to Rio Grande	.50

YACHTING PUBLISHING COMPANY

38 PARK ROW, NEW YORK CITY

A NOTEWORTHY OPPORTUNITY

—FOR THE —

Decoration of The Club House, The Den, The Summer Cottage

WITH HIGH ART PHOTOGRAPHS OF THE FAMOUS BOATS
WHICH HAVE MADE YACHTING HISTORY.

For many years past, Mr. C. S. Bolles has been recognized as the foremost high art Marine Photographer.

His collection of negatives comprises the most complete photographic record of the famous craft which have made American yachting history, and these pictures possess an artistic merit equal to their historic value.

Reproductions of these photographs are rare, as Mr. Bolles held them at high prices, ranging from Five to Ten Dollars per print.

Mr. Bolles has retired, and Yachting has purchased his entire collection of yacht negatives.

We offer these prints at a price which brings them within the reach of every yachting enthusiast, who desires to appropriately decorate the Club Room, Den or Cottage.

This is an unparalleled opportunity to secure a collection of the finest Yachting photographs extant, and one which every club and yachtsman will appreciate.

THE COLLECTION COMPRISES THE FOLLOWING SUBJECTS:

STEAM YACHTS

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Alert
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Anita
Aphrodite
Aquilo
Arcturas
Arrow
Atalanta
Ausable
Ava
Avera
Averil
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Barracouta
Bellemere
Cachalot
Carmina
Carrie
Catavia
Cauyga
Chicota
Clara
Claymore
Clermont
Colonia
Columbia
Conqueror
Cora
Coranto
Corinthia
Corsair
Cosette
Countess
Courier
Delaware
Dutchess
Dungeness
Duquesne
Echo
Eleanor
Electra
Elizabeth
Elsa
Elsador
Embla
Emeline
Emelite
Emerald
Emilta
Emu
Enquirer Buffalo
Enterprise
Eris
Eri King
Euchia
Eugenice
Fanette
Fedalna
Fiseer
Florence
Formosa
Freelance
Gadabout
Genivi
Grayling
Gretchen
Giralda
Golden Fleece
Golden Rod
Halcyon
Hamilton
Hariett
Havoli
Helvetia
Hermoine
Hiawatha
Hidegrade
Hirondelle
Huntress
Intrepid
Irma
Ituma
Invisible
Jathniel
Javelin
Jean
Jessee
Josephine
Judge
Judy
Kaloiak
Kanapha
Kanawha
Katoomba
Kistral
Kismet
Ladoga
Lady Torpide
La Wescotte
Lavrock
Leon Abbott
Llewelyn
Linta
Lorna
Marguerite
Margarita
Marietta
Mary
Maspeth
May
Mayita
Mirage
Mindora
Mohican
Nahma
Narada
Norwhale
Norwhal
Nautilus
Navahoe
Neaira
Neagra
Niagara
Niawara
Nooga
Norata
Norwood
Nomad
Nordkyn
Noma
Nourmahal
North Star
Now Then
Nydia
Oneida
Onemha
Oninta
Onicnta
Onmoore
Owaneco
Ozhesta
Parthenia
Peerless
Pioneer
Privateer
Rambler
Raynham
Reba
Reposo
Restless
Reverie
Revolution
Rex
Rhode
Rival
Rivella
Roamer
Sagbonte
Sagamore
Saghaya
Sagita
Sapphire
Satirella
Say When
Scout
Scythian
Seabird
Semiole
Seneca
Skella
Sovereign
Spae
Sultana
Sun
Susquehanna
Surf
Swananoa
Syee
Sylvia
Talisman
Tarantula
Tamas
Tanlatus
Theresa
Thyia
Thespia
Tide
Tigress
Tillie
Toinette
Tranquillo
Trio
Trophy
Turbere
Tuscarara
Utowana
Varuna
Valino
Vamoose
Vedette
Vendette
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Viking
Virginia
Vision
Wadena
Washita
Watanga
White Ladye
Wild Duck
Yowuda
Zara

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Ailsa
Akista
Alera
Alert
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Argonaut
Ashion
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Astril
Aurara
Awa
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Bedouin
Canada
Canada and Zelma
Canoe Yankee
Carmita
Carolina
Ceda
Cherokee
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Chactow
Cleona
Colonia
Columbia
Constance
Constitution
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Colonia, Pilgrim and Vigilant
Colonia
Columbia
In Dock
After Launching
Extra
Crescent
Cup Defenders, The Four
Daphne
Defenders, Cup
Defender
On Board
Die Hexie
Balloon Jib
Windward
Diver
Dolphin
Dragoon and Acushla
Dragoon
Eclipse
Eelin
Effort
Eidolon and Eclipse
Eidolon
Emrytra
Esperanza
A Thrash to Windward
Ethelwyn
Etal
E. Z. Sloat
Fanny
Gamecock
Glarie
Glen Caira
Gloriana
Gnome
Goblin
Gossoon
Gracie
Group of 21-Footers
Group of 5 Sloops
Guilia
Guisald
Guinare
Gunhilda
Hera
Hester
Hildegrade
Hope
Humma
Huron
Ideal
Imp
Independence
Indolent
In It
Isolde
Isolita
Iseult
Jessica
Joker
Jolly Roger
Josephine
Jubilee
Keaen
Katrina
Kittie
Mai
Mandeen
May
Meirol
Mineola and Virginia
Minerva
Mineola
Mineola and Rainbow
Memory
Moccasin
Momo
Montauk
Mount Morris
Musme
Mystery
Nautilas
Neola
Neva
Navahoe
Nit
Narona
Nylked
Nymph
Nun
Ohyesia
Oleeau
Olita
Ondawa
Owatonna
Paprika
Balloon
Penelope
Phanton
Pilgrim
Pirate
Possum
Puritan
Pyxie
Queen Mab
Queen Mab and Wasp
Racoon
Rainbow
Rainbow and Mineola
Ramallah
Rehaner
Reliance
Riverside
Sagamore
Saoma
Sayonora
Schooners, Group of Colonial, Iroquois, Emerald
Shamrock
Shamrock III.
Shamrock in Dock
Shark
Sistae
Skate
Spruce IV
Spy
Stella
Start of Half Raters
Sulpuse of Detroit
Surprise
Sultana
Syce
Sybarita
Tempus
Tern
Theo
Thetis
Tornado
Tornette
Two-Step
Uionee
Ulmec
Uvica
Valkyrie II.
Valkyrie III
Veda
Vencedor
Ventura
Vigilant
Vigilant and Defender
Vorant
Volunteer
Wasp
Wawa
Wayward
Weetamoe
Whistlewing
Whileaway
Wild Cat
Yankee
Yola
Zelma, of Toronto

SCHOONERS

Acaca
Agnes
Alcaca
America
Amorita
Ariadne
Ariel
Alsacienne
Atlantic
Brunhilde
Cachelot
Cavalier
Chanticleer
Clytie
Comet
Constitution
Colonia
Columbia
Constitution on Builder's Trial
Corona
Coronet
Crusader
Dagmar
Dauntless
Elmina
Elsemarie
Emerald and Ariel
Endymion
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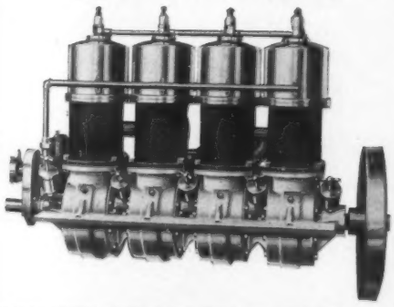

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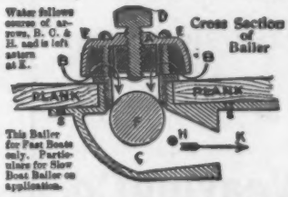
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An Open Cruising Boat

(Continued from page 363.)

looks so much like a bug at a distance. Passing Bug Light on our port we turn to starboard around the first black spar buoy. Over our port bow is seen a large, white stone lighthouse; this is Boston Light, showing a revolving white light. About 2½ miles away over our port beam is a tall lighthouse; this is the Graves Light, showing 1 = 1 white flashes. Ahead is the open sea. Over the starboard bow is Point Alleton, and on the hill at the water tower is Fort Revere. This end is called Pemberton. Between Pemberton and the island on the right is Hull Gut. Passing through Hull Gut we go along Peddocks Island, with Fort Andrews on our starboard. Passing along Peddocks we go by the white barrel on our starboard; this marks the outer edge of Harry's Rocks. Ahead is seen a pinnacle on a pile of stone; this is Pig Rocks; pass the white barrel here on your port; then if the tide is less than three hours in, get in line with this pinnacle and the Quincy Yacht Club, seen ahead; this is the line of a narrow, dredged channel; on either side is eel grass, so thick as to stop any engine.

Go up near the club house; shut off the engine, and slide out of the channel into the eel grass. Don't anchor in the channel, it is too narrow; you would be in the way. Going ashore we bought some clams for a chowder.

To do all our cooking we had a single-burner denatured alcohol stove. We cannot say anything too good about this stove. No odor or soot, and it gives a flame equal to a gas stove. We had a shallow copper pan to keep the stove from sliding around; this pan would also prevent slopping around. The stove itself had a wire guard on it, made especially for marine purposes. We used less than a gallon of denatured alcohol for the three meals a day for two weeks, costing us 75 cents for the gallon. We had good meals, and everything hot. To cook everything on a single burner required some planning, and the following is a sample of two meals:

Clam Chowder.
Steak.
Boiled Potatoes. Peas.
Coffee. Bread.
Pie. Cake.

Make the coffee first; let it stand in the pot and cover it over; next slice and boil your potatoes and set one side. Heat a spider hot and drop in your steak; your steak will soon be done, and while you are serving these your peas are heating.

In the photograph of the boat will be noticed the canopy. This is one I made myself; we have found it very good, and it has been copied by some of my friends. It is very quickly taken down or put up. On the inside, 4 inches above the bottom edge, is a row of brass snap hooks. The curtains are made in four sections. The front curtain extends from the second upright from the bow, around the bow to the corresponding upright on the other side. The stern curtain is a duplicate of the front curtain. The side curtains fill the remaining space, overlapping the other curtains 6 inches. By this arrangement any part of the boat can be protected and the rest left open. There are three celluloid windows in both the front and stern curtains, and one each in the side curtains.

If I were to have another boat of the same size and style I would set the engine back, so that the flywheel would come at *X* on the diagram. Then I would make a top the same as a cabin roof, with a sliding hatch, the whole top to fasten to the washrail by hooks so it could be easily detached.

I would omit mahogany decks. A good 10-ounce canvas, painted khaki color, is very serviceable and looks neat. Give the deck a very heavy coat of thick paint, then stretch and tack

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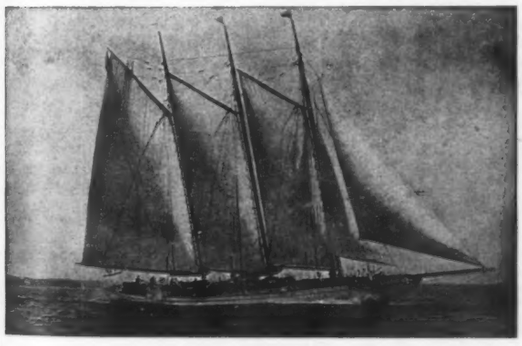

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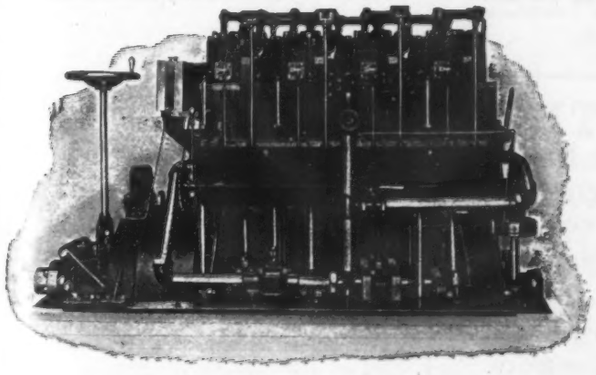

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on the canvas. The paint should be mostly o

Another improvement I would make would h a spray curtain. In the spring and fall one leave the top down so as to receive the warmth fro the sun. Cut a piece of canvas as wide as you ca just see over when at the steering wheel; carry i around the bow and well down the sides. Faste wooden or brass rods to this to hold it up, an set into sockets in the washrail. This will roll up in a small space, and will be found to be ver handy.

[This is one of a series of articles on cruising experiences in open boats, with suggestions for future improvements in boat and equipment.—Editor.]

Splicing a Rope Pennant to Wire Halyards

(Continued from page 366.)

a tie on the end of the manila rope to prevent i from unlaying. Next take the wire rope and unlay every other strand back to the point where the tie was put on, or 3 feet 6 inches. If we suppose the strands numbered in order, unlay Nos. 1, 3 and 5. (See Fig. 1.) Take out the heart for the whole length of the splice. Turn these three strands back out of the way, and bring the three remaining strands alongside the manila to the point where the splice is to begin. Let the manila overlap 3 or 4 inches. Now partly untwist the manila and force the three wire strands, still twisted together, into the center of the rope. It will slip in quite easily with a little untwisting. The whole length of the wire is in this way forced into the center of the rope. (See Fig. 2.) Though the strands may appear a trifle open the size of the rope is scarcely increased. Professionals cut off one of these core wires a foot from the end and the other a foot further up, so as to have the core tapered, and the last one a foot beyond that.

When these strands are worked into the center of the manila we begin with those that have been turned back. If the wire rope is what is known in the trade as tiller rope, each of the strands will have a hemp core. It is best to cut this core out of these strands, as the wires then sink into the manila strands better, and give greater friction.

Supposing that one is working with ordinary right-handed rope, the wire strand at the beginning is passed over the manila at the right of it, then down into the rope and brought out to the left of the same manila strand. In order to give the greatest possible holding power each strand is tucked about the same manila strand and not carried over and under as in the ordinary way. In effect, the wire strand is wound around the manila strand. For cleanness of working and to prevent mistakes it is best to take one strand at a time and tuck it for its full length. When within a few inches of the end take the wire strand over the other, turn it back and tuck the end under the manila and under itself (its own part) toward the point of starting. This finishes the end by making a sort of tie of it and considerably increases the hold which one strand has upon the other. When one strand has been tucked, or wrapped about the other down to the end, the next one is taken and finished in the same way. The projecting ends of the manila strands are then tapered and whipped with fine twine. Then they are brought together upon the wire and the junction is carefully served with marlin. Marlin will probably be a better serving than wire, because it is more elastic and flexible than wire, and will reeve through a block with less danger of working off.

A small seizing at the point where the wire strands end, if put on with small stuff, and made secure, so that it cannot work off, would be desirable.

The method of wrapping one strand about another violates all a sailor's ideas of proper splicing, but it is made necessary on account of the small hold wire strands have upon the fiber.

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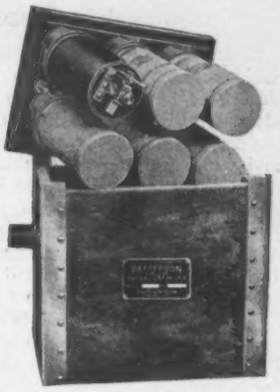

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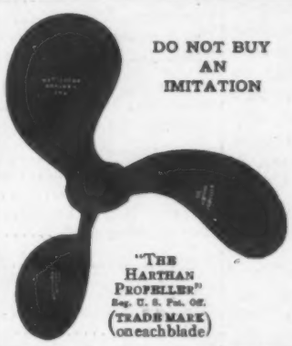

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The Lady Maud: Schooner Yacht

(Continued from page 374)

of powder smoke from the mouths of some gigantic cannons, sailing with the majesty of squadrons of line-of-battle ships across it; and a windward horizon studded with the snow-white shoulders of similar masses of vapor soaring from behind the sea. Over this tossing surface the schooner was splashing and jumping, under a double-reefed mainsail and two jibs. Every minute, as she bobbed her cutter-shaped nose into the hollows, the spray flew over her forecastle in a glittering cloud, and her forward cloths were dark with the saturation of it to half the way up.

"This repays us for last night's delay, Walton," exclaimed Sir Mordaunt, with his face all aglow, and his hair blowing about his ears, and his beard under his arm.

"I am glad to hear from the steward that Lady Brookes isn't troubled by this dance," said I.

"Not in the least. My niece says it is owing to the bed. It is a fine bed, I admit; but though it prevents my wife from feeling the pitching and rolling, it doesn't qualify the effect of going up and down: this sort of movement, I mean," said he, as the schooner was thrown up by a sea, and then sank into the hollow left by it as it ran away roaring and hissing to leeward. "Depend upon it, she is going to prove a real sailor."

"And how is it you are not prostrated, Miss Tuke?" I asked, looking at her with great admiration; for the strong wind had kindled a bright flush in each cheek, that made her eyes as brilliant as the water where the sun touched it, and her white teeth and red lips and happy enthusiastic expression might have served as hints for a picture of the Goddess of Health. She shook her head, and laughed merrily, balancing herself with the ease of an old sailor to the motion of the vessel, and beating me hollow in that respect; for she kept her hands by her side, whilst I took care to keep a grip of the top of the companion.

"Poor Norie is very bad, Sir Mordaunt," said I. "It wouldn't do now for one of us to fall ill. Our friend couldn't prescribe."

"I'm very sorry for him," replied Sir Mordaunt, "but I wish he didn't think it necessary to make such a noise. He told me he was a good sailor. The doctor I wanted, who was a naval surgeon for some years, wouldn't come; his practice was too good to jeopardize by leaving it for a summer. However, I have known Mr. Norie for some time, and Lady Brookes is quite safe in his hands. I suppose he'll get over his seasickness in a day or two. But he needn't hurry; none of us will want him professionally, I hope."

Presently old Purchase stumped along the lee side of the deck, and touched his hat to me as he passed.

"Good morning, captain," said I. "The schooner knows the scent, now she has the wind—eh, captain?"

"You're right, sir," he answered with a grin that crumpled up his face like a block of mahogany that has been shriveled by heat. "I never see any wessel hold her own better. Look over the starn, sir, and ye'll notice she don't make a hair's thickness o' leeway."

Dress as he would, he was always a terribly nautical man to look at. He had a black sou'-wester on, the inner rim of which came as low as his eyebrows, and oilskin leggings, and a rusty pilot-cloth coat pretty nearly as long as a parson's.

"Whereabouts are we now?" I asked.

"I give us till ten o'clock to-night to be abreast o' the Start, onless the wind comes free, in which case we ought to be well on to the Scillies," he answered.

"At that rate, Sir Mordaunt," said I, "we should be clear of the Channel in twelve hours."

"Yes, and no very great run, either, Walton. This head sea bothers the boat. Mark, now, as she jumps at that wave." The light green surge struck her full on the bow, and burst in a storm of snow over the forecastle. "Do you notice how it stops her? Purchase, don't spare your canvas. Let her have all that she will carry."

"She's got as much as she wants, sir," answered the skipper. "I'm a man as never drives a willing wessel, sir. My argueyment is, no craft is built to sail on her side, and the more you bury her the more you give her to drag along. This here double-reefed mainsail keeps the yacht wholesome. And isn't it pressure enough, gentlemen? Look at the weather stan'ing rigging!"

I was glad to agree with him, but gladder still to hear the steward in the cabin ringing us down to breakfast.

(To be Continued.)

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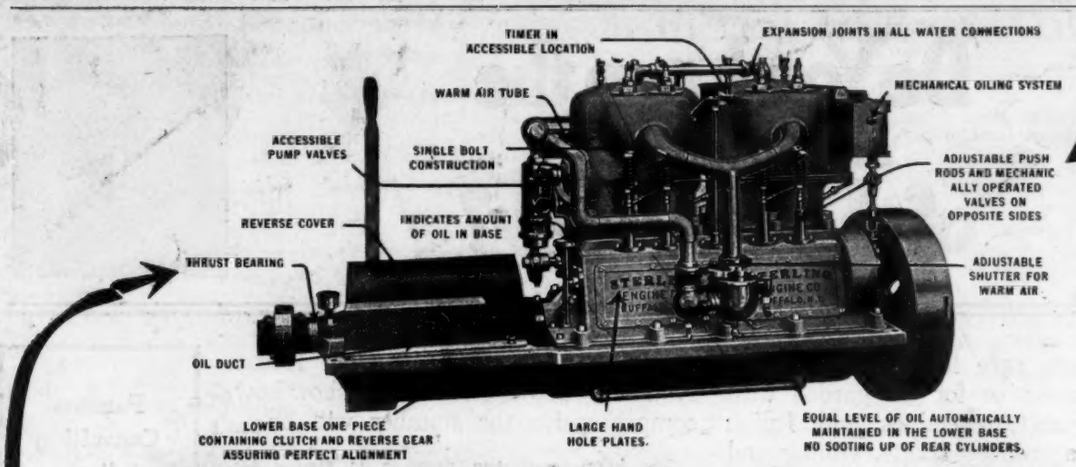
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